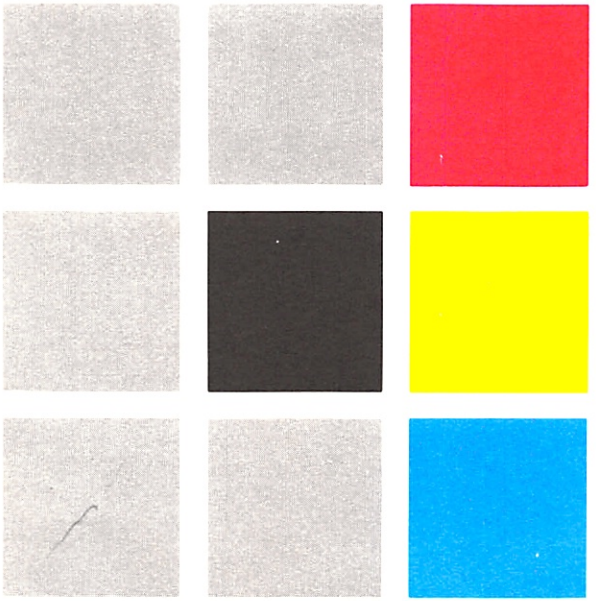
6500-8700



CROSFIELD

MAGNASCAN 626/636/646/IE/M

Operator's Reference Guide

Magnascan 626/636/646 IE/M
Operator's Reference Guide
6500-8700-01A

Important

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ISSUE RECORD

ISSUE	Date	Changes	Chapters
01A	10/88	Second Issue	Prelim. Pages Chaps. 1 to 5 A-1 to A-2

Note: The ISSUE STATE of a document or chapter is indicated by the last two digits of its document number (e.g. the first re-issue of document *6500-8700-00A* becomes *6500-8700-01A*, and the second re-issue becomes *6500-8700-02A* etc.). A change of issue state indicates that changes have been made to the document or chapter, although this does not necessarily mean that the contents of each page have changed.

PREFACE

The Operator's Reference Guide provides the basic instructions and operational sequence for effective use of 626/636/646 IE/M Scanners.

RELATED DOCUMENTS

Magnascan 626/636/646 IE/M Operator's Manual 6500–8690

Magnascan 636 EF/EM Operator's Manual 6500–8710

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CHAPTER 1
INTRODUCTION

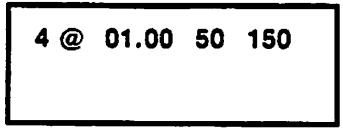
1 INTRODUCTION

The Operator's Reference Guide is presented in four parts in addition to this Introduction. The first part comprises an Operator-orientated user index. The second part is in the form of concise operating instructions, followed by two small sections which provide the recommended operating sequence and an editorial sequence chart.

Operators will find with experience that eventually they do not need the concise description and can simply refer to the operating sequence. Fuller descriptions of operating instructions and routine procedures are given in the 626/636/646 IE/M Operator's Manual, Document No. 6500-8690.

Where a choice of buttons is available for a given operation, all the button choices are shown, separated by diagonal strokes. Sometimes more than one button may be used from the selection. This is explained in the text.

Where the Alphanumeric Display changes, it is illustrated. For convenience a standard set-up has been used in all cases:



indicating: 4-up
Enlargement Value 1.00
USM Sharp 5 units
USM Smooth 0 units
Screen Ruling 150

There is, at the end of the chapter, a chart showing the correct operating sequence for the editorial controls. This gives a further means of easy reference, in addition to the main operating sequence. **The correct operating sequence for the editorial controls must be followed** in order to achieve satisfactory results.

1.1 Direct Switching

When using certain edit functions the Operator can switch directly from one function to another. There is no need to exit from one function before entering another function. Direct switching is possible between EW, EB, TONE, COLOUR CORRECTION(CC), CAST 2 and CAST 1.

CHAPTER 2
USER INDEXES

2 USER INDEXES

2.1 Function Index

FUNCTION CODE	EXPLANATION	PAGES
ANOP	*Analyse optics (adjustments).*	*3-5 to 3-11*
AUTOBAL	*Autobalance scanner (input calibration).*	*3-33*
CAL	*Calibrate scanner/auxiliary function access.*	*3-2, 3-3*
CED	*Cancel edit (all or some).*	*3-12 to 3-15*
CC	*Colour correction.*	*3-46, 3-47*
CL	*Catchlight.*	*3-55 to 3-59*
CST 1	*Non-selective HL, MT and SH cast control.*	*3-53, 3-54*
CST 2	*Neutral-selective SH cast control.*	*3-52, 3-53*
CV	*Customer values (recall).*	*3-34 to 3-38*
CYLR	*Cylinder release.*	*3-4*

DIST	*Picture distortion.*	*3–23 to 3–25*
ECR	*Expose carriage re–set.*	*3–101*
ENL	*Enlargement.*	*3–18 to 3–20*
EWEB	*Enter White/Black (MAN, AUTO, AN).*	*3–39 to 3–43*
EXP	*Expose.*	*3–95, 3–97 to 3–99*
EXPH	*Expose hold.*	*3–78 to 3–80*
FRMT	*Separation format.*	*3–68 to 3–76*
IOWB	*Image offset with border*	*3–90 to 3–94*
FSZE	*Final size of separation.*	*3–21, 3–22*
LATR	*Lateral reversal (right or wrong reading).*	*3–77*
LMT	*Limits (HL and SH).*	*3–81 to 3–83*
LOAD	*Load cylinder*	*3–7*
FUNCTION CODE	EXPLANATION	PAGES
LOADOP	*Load output film*	*3–97*

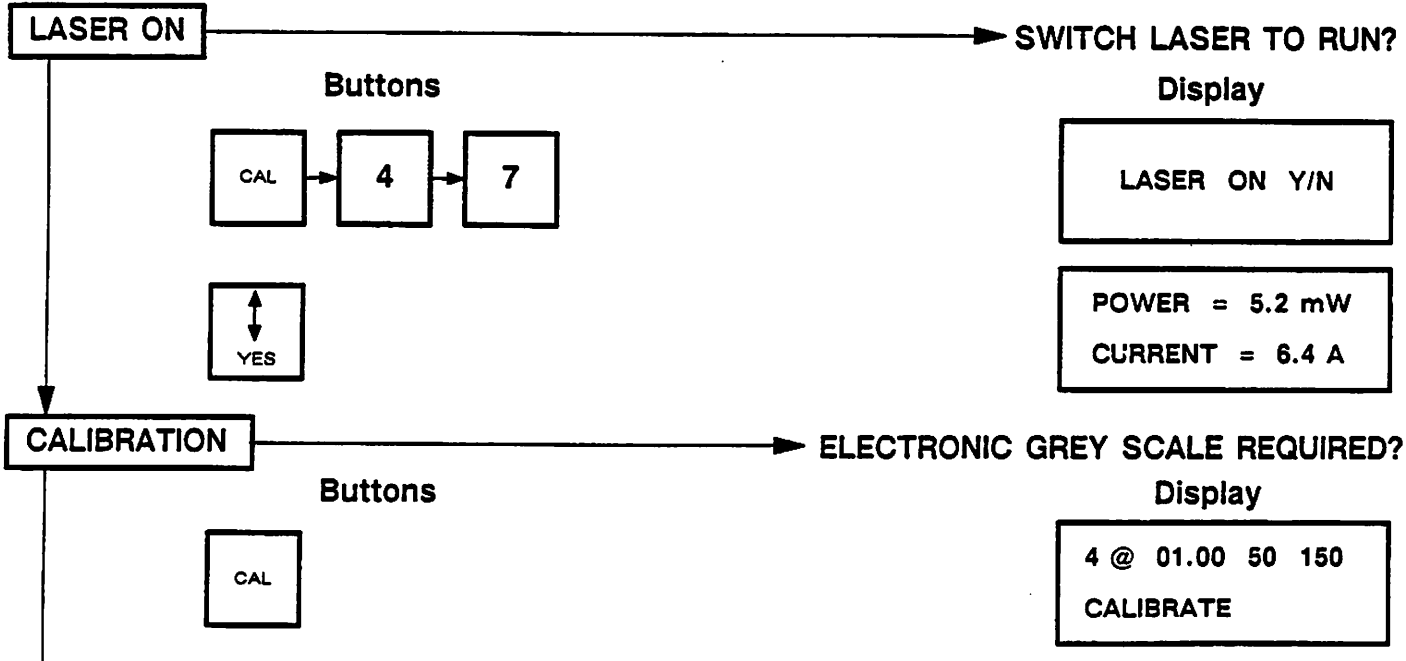
FUNCTION CODE	EXPLANATION	PAGES
LOADOP	*Load output film*	*3–97*
LSR	*Laser power*	*3–2, 3–3, 3–96*
NEG/POS	*Negative or positive working*	*3–78, 3–94*
OPC	*Output calibration*	*3–2, 3–3*
OPF	*Output function*	*3–27 to 3–32*
PCR	*Polychromatic colour removal*	*3–51, 3–52*
POSN	*Enter position of original*	*3–16, 3–17*
PSCR	*Pastel colour boost*	*3–48 to 3–51*
SU	*Select units*	*3–26*
SED	*Suppress colour edits*	*3–83*
SGV	*Scanner generated vignettes*	*3–84 to 3–86*
ST	*Select turret*	*3–95*

UF *Unload film* *3–100*

USM *Unsharp masking* ..... *3–59 to 3–68*

CHAPTER 3
CONCISE OPERATING INSTRUCTIONS

3 CONCISE OPERATING INSTRUCTIONS



CAL EXPOSE will output the 32-step electronic grey scale for various calibration purposes.

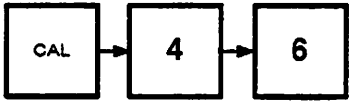
Note:- To start the expose sequence, press the expose button on both units.

CALIBRATION → **STEP 16 UPDATE REQUIRED?**

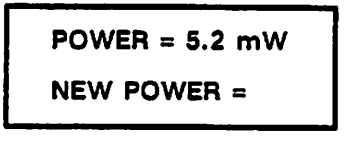
Expose the electronic grey scale and measure the dot % (x) of step 16. Then x–48 is the dot % error (if any). Read off from the graph the corresponding laser current error. Increase or decrease the laser current by this amount, using **CAL 46.** Repeat the grey scale exposure and step 16 measurement to confirm that it is now at 48%. At 48% (step 16) the dots are not quite joined. At 52% (step 17) the dots are just joined. Badly calibrated densitometers and charts that are not correct for particular densitometers will give bad calibration.

LASER OUTPUT → **SET LASER POWER?**

Buttons

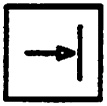
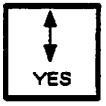
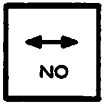


Display



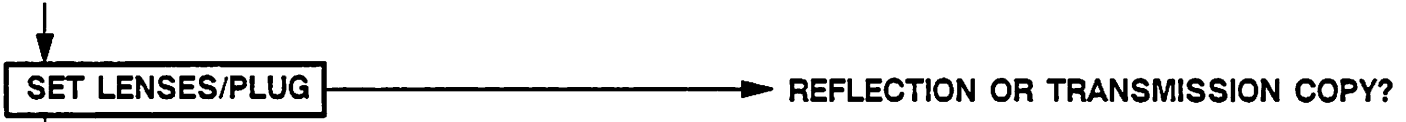
Use the keyboard to enter a new power or press **ENTER** to keep the power unchanged. The laser current will be displayed.

CYLINDER RELEASE → RELEASE CYLINDER?

Buttons	Display
	4 @ 01.00 50 150 CYL. RELEASE??
	4 @ 01.00 50 150 CYL. RELEASE
	4 @ 01.00 50 150 CYL. ROTATING?

Once the release procedure is initiated the analyse carriage moves to the right whilst the statement 'CYL. RELEASE' is displayed. Close to the release position, the carriage stops and the question 'CYL. ROTATING?' appears. When **NO** is pressed, the carriage moves further to the right, releasing the cylinder.

Set the analyse lens FORWARD for the SMALL cylinder or BACKWARD for the LARGE cylinder.



For transmission copy fit the correct centre optics lens marked L for large cylinder or S for small cylinder.
Press the **REFLECTION** button to select reflection mode, fit the blanking plug and use the large cylinder.

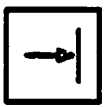
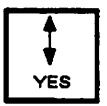
LOAD CYLINDER → **LOAD LARGE OR SMALL CYLINDER?**

If no cylinder is fitted, the analyse carriage will only traverse when the cylinder rests are upright. Traverse the carriage to the far right, then put the cylinder rests in the correct position.

DOWN–LARGE cylinder UP–SMALL cylinder

Place the cylinder on the rests.

To drive hubs together and pick up cylinder,

Buttons	Display
	4 @ 01.00 50 150 DATUM SEARCH??
	4 @ 01.00 50 150 DATUM SEARCH!!

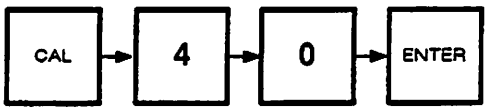
Check that the cylinder is correctly held by the hubs.

FOCUS, APERTURE, FILTER → **SET FOCUS, SELECT APERTURE AND FILTER**

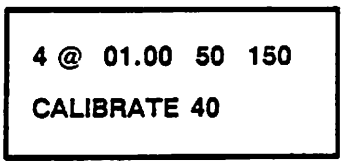
Press **VIEW** and observe the grain of the original. Use the focus adjuster to obtain sharp focus. Select the correct analyse aperture and analyse filter as per the scanner fact chart.

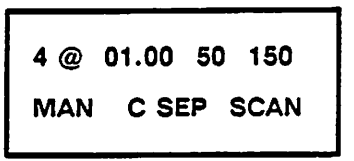
CENTRE SPOT → **CENTRE SPOT ON CROSS-HAIRS**

Buttons



Display



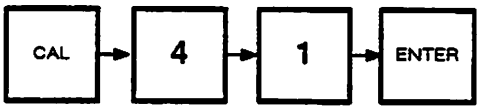


Press **CAL 40 ENTER** to select **VIEW SCAN SPOT.** Centre the spot, using the horizontal adjuster followed by the vertical adjuster.

LAMPHOUSE OPTICS → ADJUST LAMPHOUSE TRANS. CONTROLS.

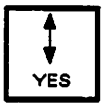
Buttons **Display**

Select Analyse aperture 4, filter D.



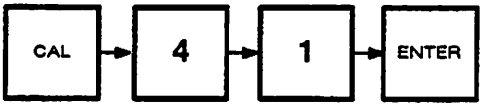
Adjust 'A' and 'B' Transmission controls for minimum density read-out on Magenta channel.

AUTOBAL Y/N?



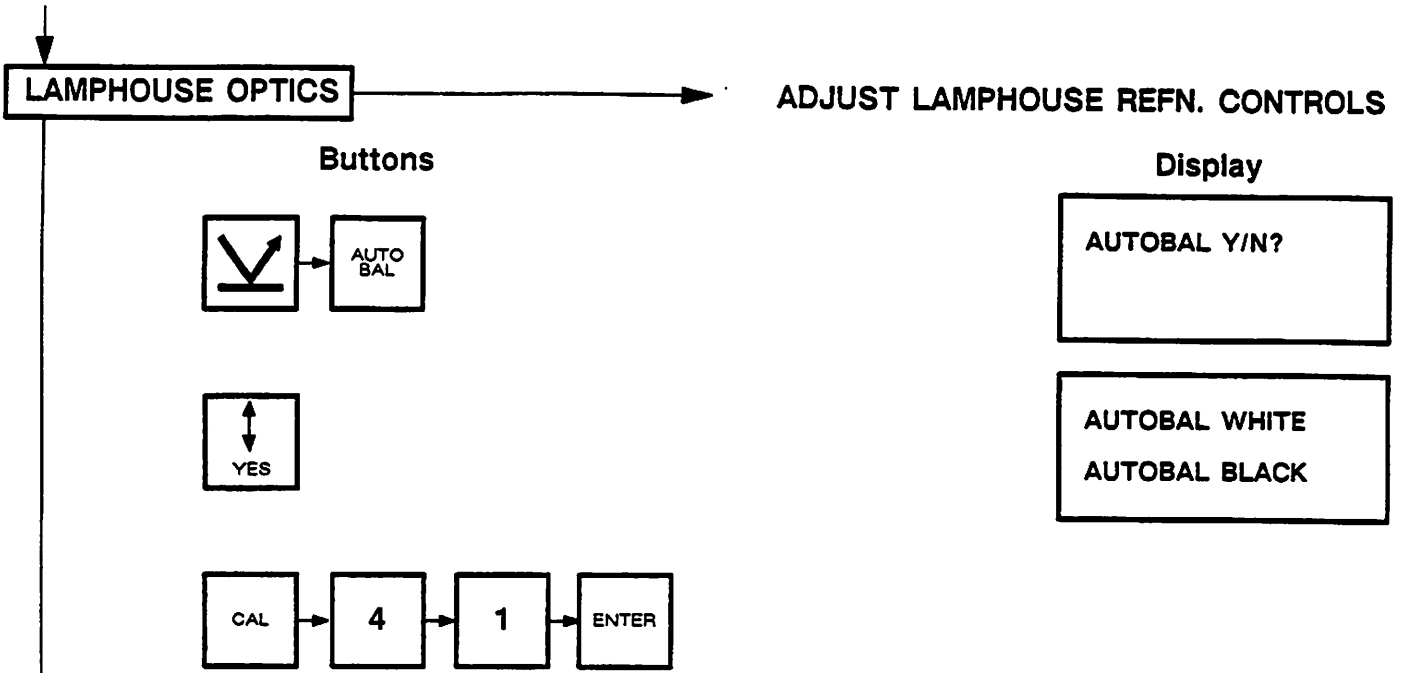
AUTOBAL WHITE

AUTOBAL BLACK

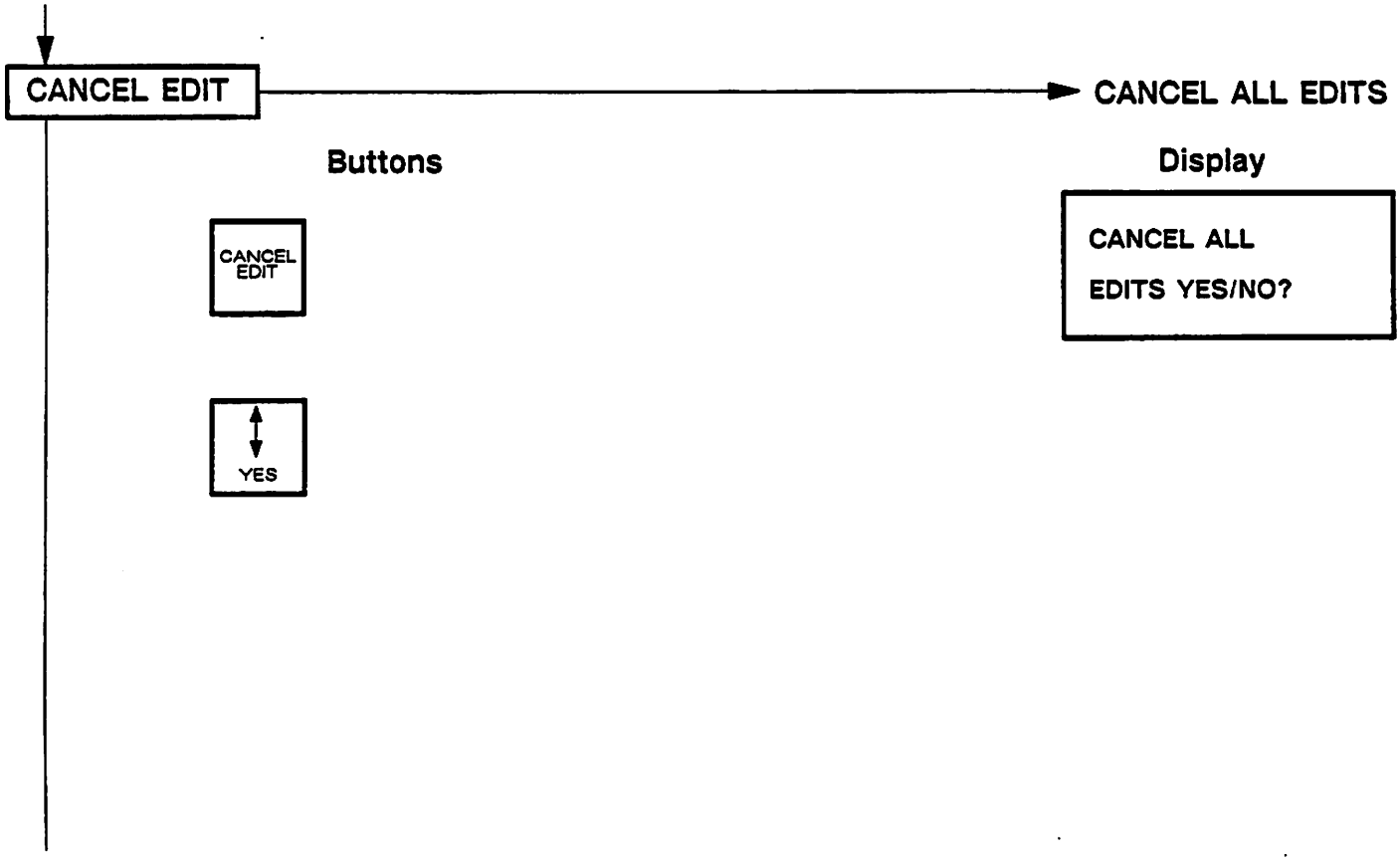


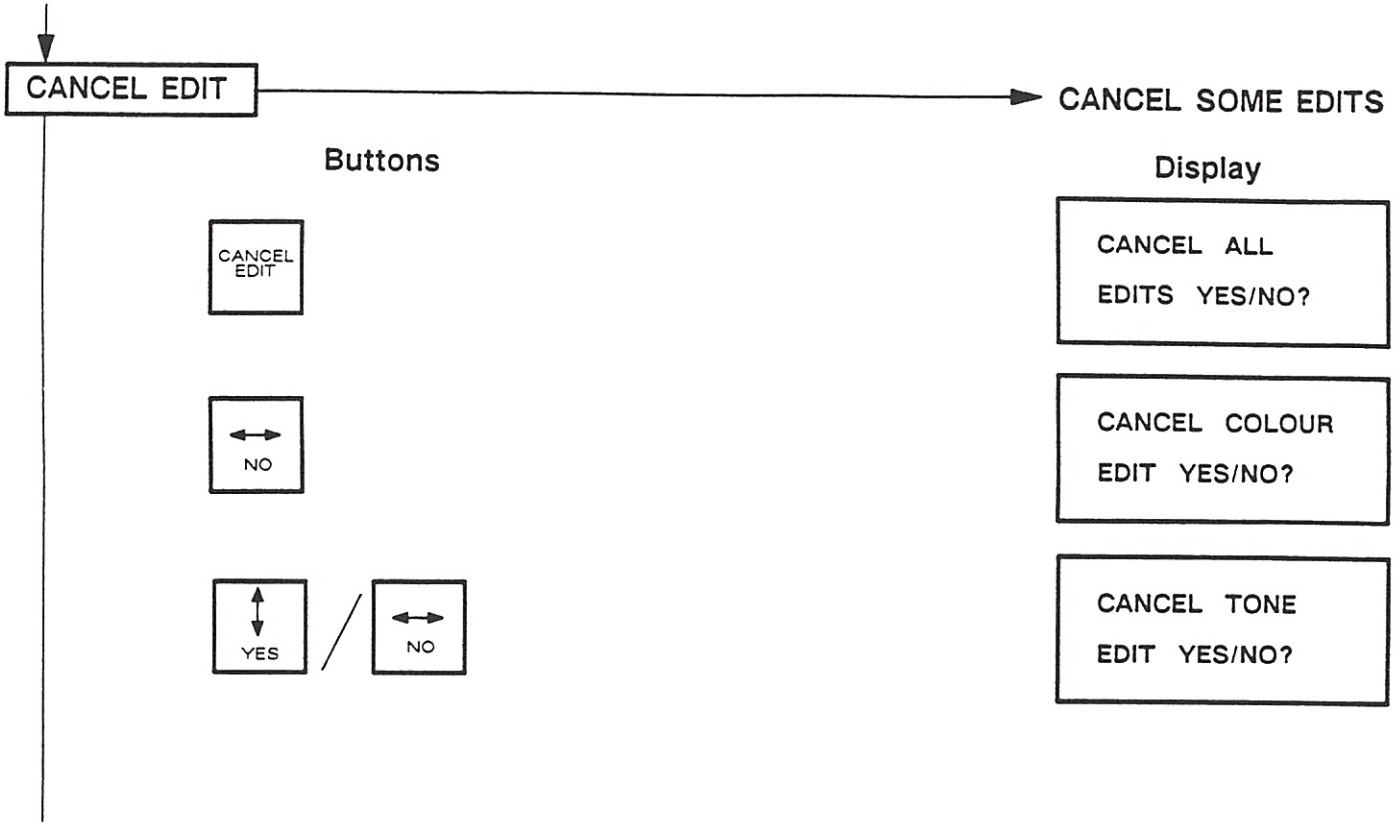
Note original density read-out on Magenta channel. Turn 'B' clockwise until read-out increases between 0.10 and 0.15.

Note: Selection of density between 0.10 and 0.15 moves the lamp cathode image away from the Analyse lens aperture and sets the Xenon arc to a stable position.



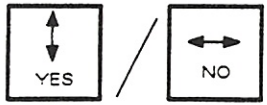
Note density read-out on the magenta channel. Turn reflection controls 'A' and 'B' for minimum density read-out on this channel.


CANCEL EDIT
CANCEL ALL EDITS
Buttons
Display
CANCEL EDIT
CANCEL ALL
EDITS YES/NO?
YES

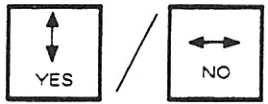

CANCEL EDIT
CANCEL SOME EDITS
Buttons
Display
CANCEL EDIT
NO
YES
NO
CANCEL ALL EDITS YES/NO?
CANCEL COLOUR EDIT YES/NO?
CANCEL TONE EDIT YES/NO?

CANCEL CAST 1
EDIT YES/NO?

CANCEL CAST 2
EDIT YES/NO?

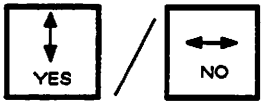


CANCEL P.C.R
EDIT YES/NO?



CANCEL C'LIGHT
EDIT YES/NO?

CANCEL LIMITS
EDIT YES/NO?



CANCEL BLACK
EDIT YES/NO?

CANCEL PASTEL
EDIT YES/NO?

Cancel all the edit values from the previous job or some of the edit values from the previous job in the following sequence:

COLOUR - TONE - CAST 1 - CAST 2 - PCR - CATCHLIGHT- LIMIT- BLACK - PASTEL BOOST

Note: If you want to use some of the edit values for several jobs, **NO** can be pressed for those edit functions.

POSITION → START AND FINISH POSITIONS ENTERED?

Buttons | **Display**

Enter top left-hand position (1), using

and FAST as required

POSN

Display
4 @ 01.00 50 150 1 V 123.0 H 143.0

ENTER position 1 entered

Display
4 @ 01.00 50 150 2 V 000.0 H 000.0

Enter bottom right-hand position (2), using

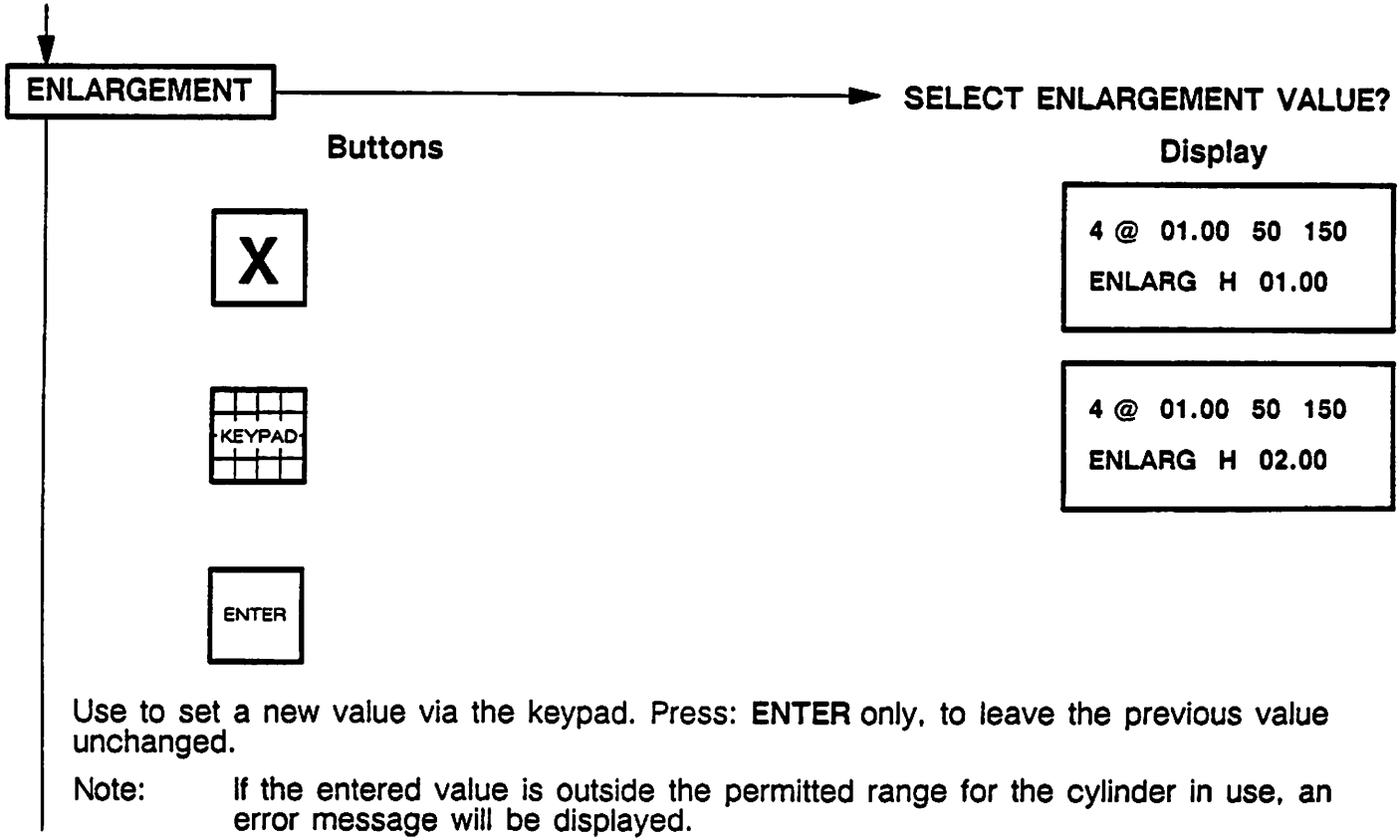
and

as required

```
4 @  01.00  50  150
2  V  120.0 H 140.0
```

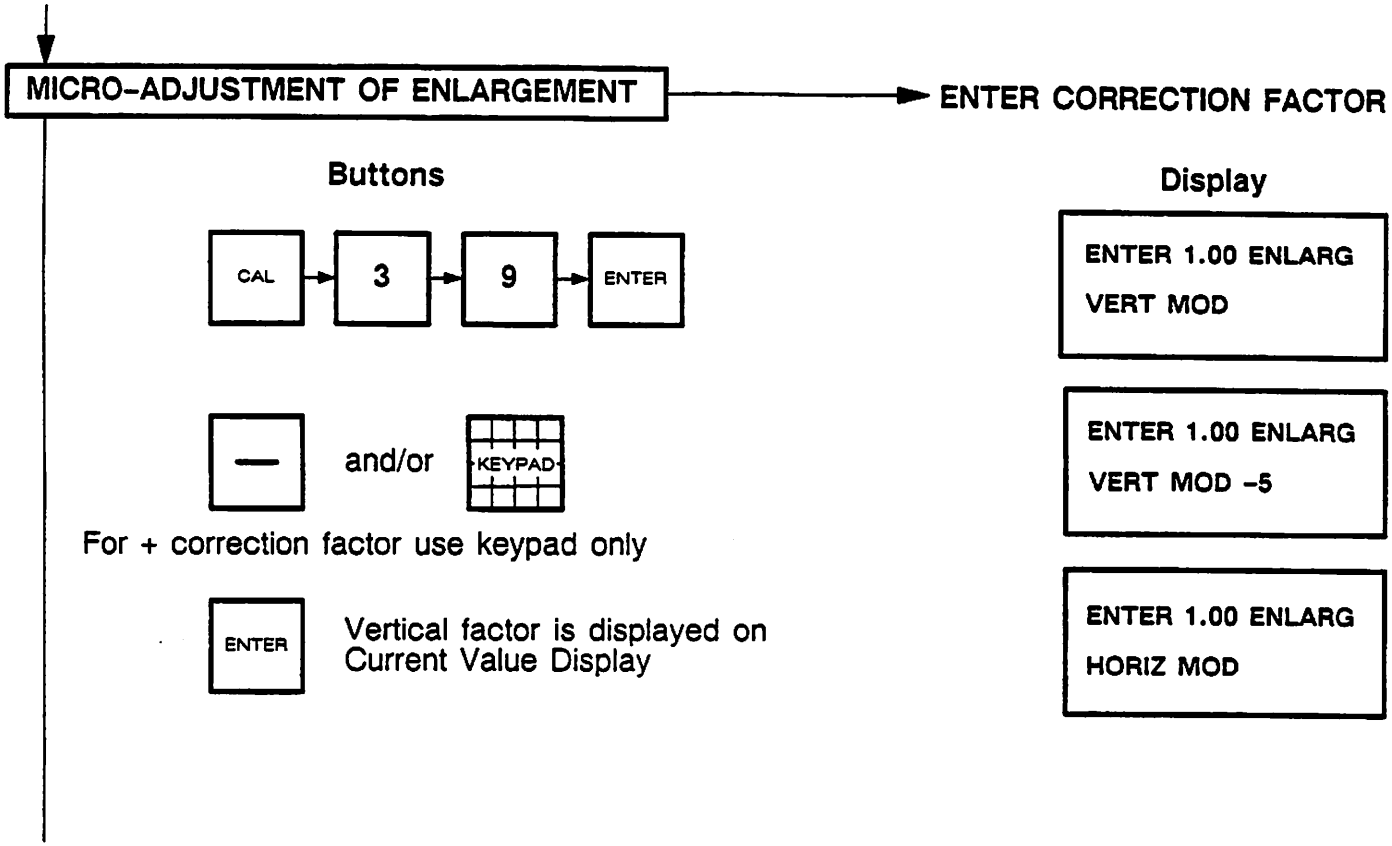
position 2 entered, display returned to monitor mode

POSN must be set before **X** or **ENTER** are used.



Use to set a new value via the keypad. Press: **ENTER** only, to leave the previous value unchanged.

Note: If the entered value is outside the permitted range for the cylinder in use, an error message will be displayed.


MICRO-ADJUSTMENT OF ENLARGEMENT
ENTER CORRECTION FACTOR
Buttons
Display
CAL
3
9
ENTER
ENTER 1.00 ENLARG
VERT MOD
—
and/or
KEYPAD
ENTER 1.00 ENLARG
VERT MOD -5
For + correction factor use keypad only
ENTER
Vertical factor is displayed on
Current Value Display
ENTER 1.00 ENLARG
HORIZ MOD

Buttons

and/or

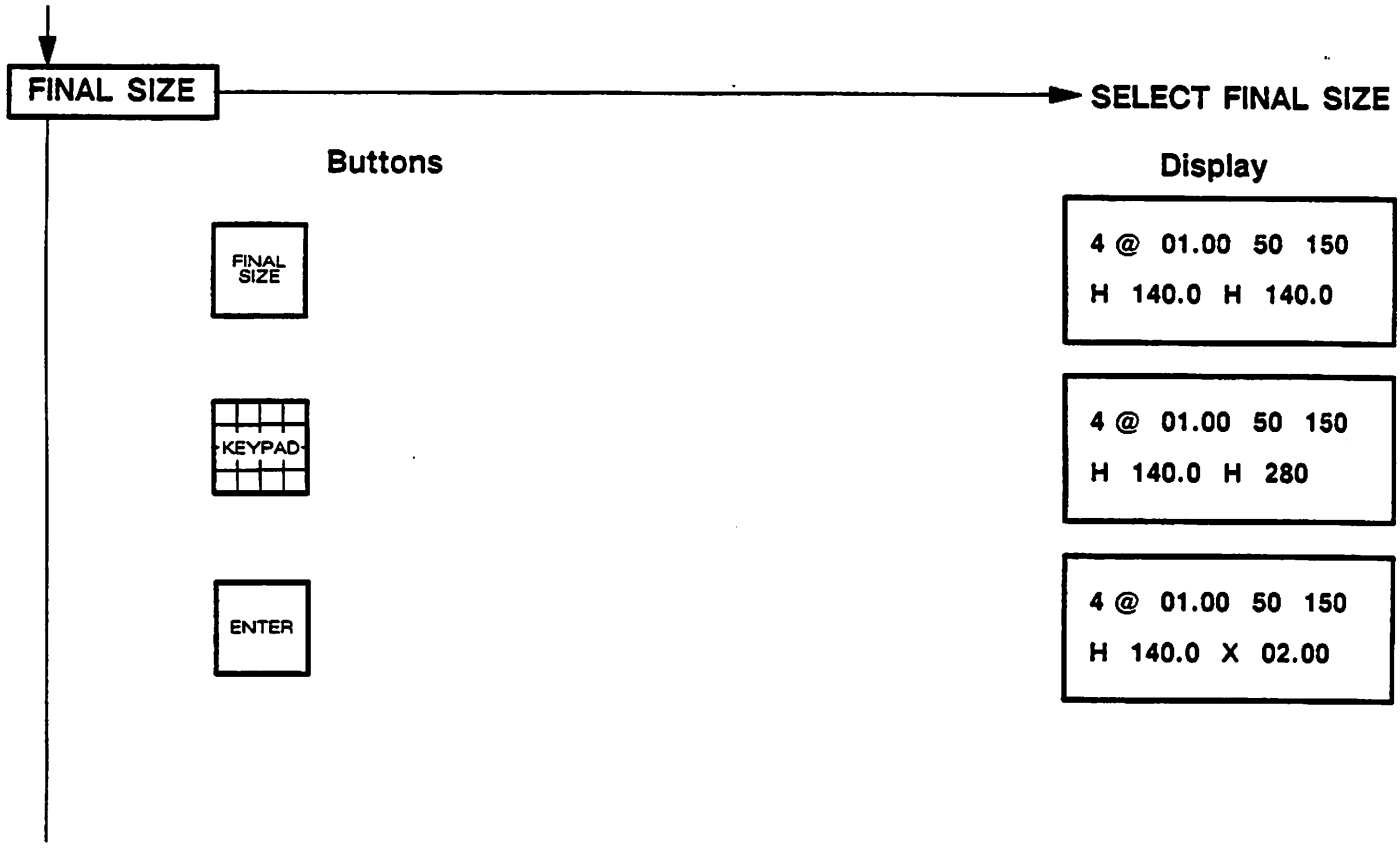
For + correction factor use keypad only

Horizontal factor is displayed on Current Value Display.
System returns to monitor mode

Display

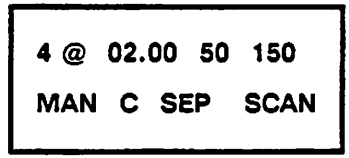
```
ENTER 1.00 ENLARG
HORIZ MOD 3
```

```
4@  01.00  50  150
MAN  C  SEP  SCAN
```


FINAL SIZE
SELECT FINAL SIZE
Buttons
Display
FINAL SIZE
KEYPAD
ENTER
4 @ 01.00 50 150
H 140.0 H 140.0
4 @ 01.00 50 150
H 140.0 H 280
4 @ 01.00 50 150
H 140.0 X 02.00

Buttons

Display

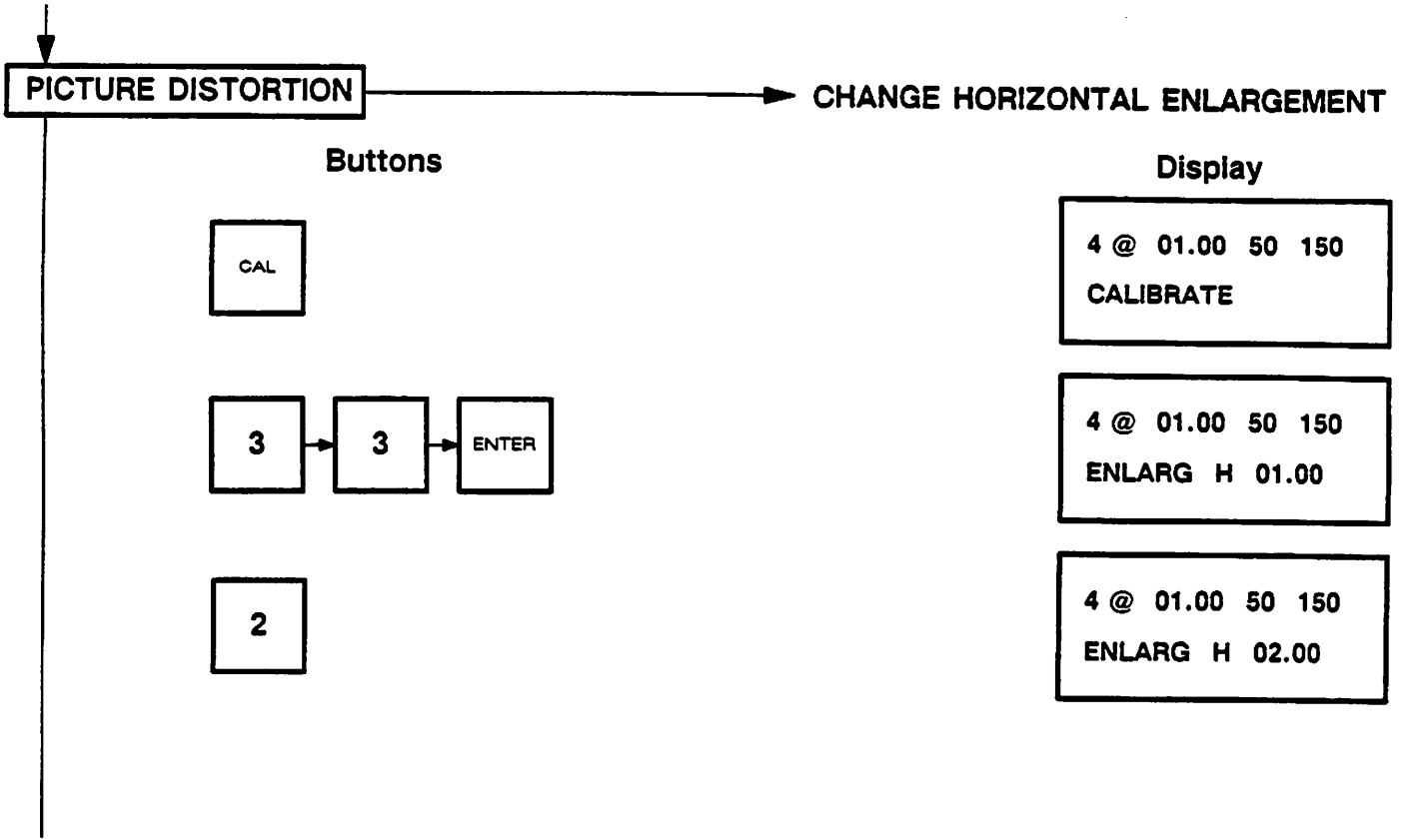


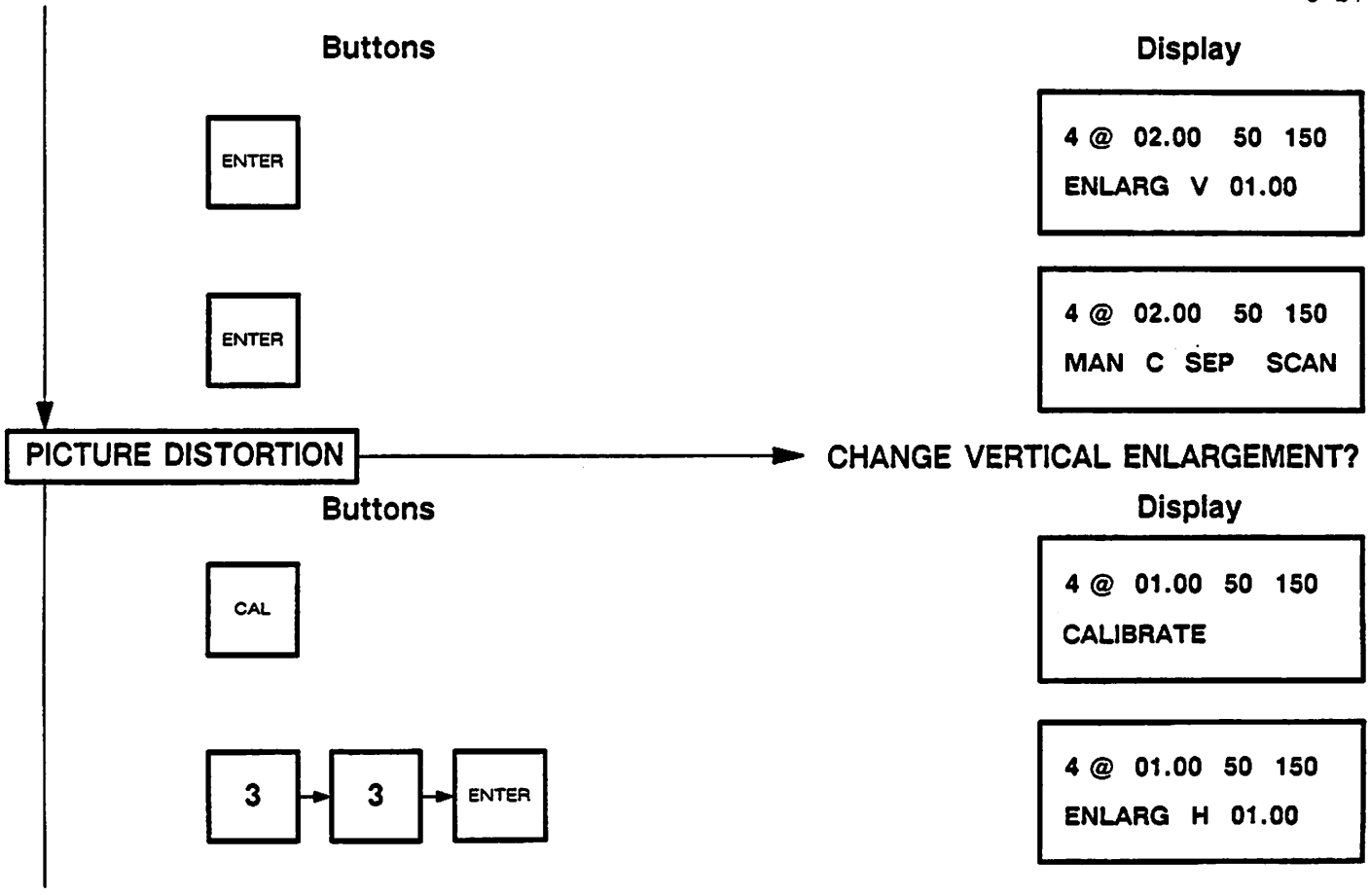
Alternative methods of entry are as follows:

a) The input mode, where the required output size is entered and a new enlargement value calculated using input size as defined by **POSN**.

b) The output mode, where the output size is calculated from X already entered.

Note: **POSN** must be set before any final size operation can be done.
If the calculated enlargement value is outside the permitted range for the cylinder in use, three bleeps sound.


PICTURE DISTORTION
CHANGE HORIZONTAL ENLARGEMENT
Buttons
Display
CAL
3
3
ENTER
2
4 @ 01.00 50 150
CALIBRATE
4 @ 01.00 50 150
ENLARG H 01.00
4 @ 01.00 50 150
ENLARG H 02.00


Buttons
Display
ENTER
4 @ 02.00 50 150
ENLARG V 01.00
ENTER
4 @ 02.00 50 150
MAN C SEP SCAN
PICTURE DISTORTION
CHANGE VERTICAL ENLARGEMENT?
Buttons
Display
CAL
4 @ 01.00 50 150
CALIBRATE
3
3
ENTER
4 @ 01.00 50 150
ENLARG H 01.00

Used when a picture needs a different enlargement value in the horizontal direction from that in the vertical direction.

Select **CAL 33** to display the horizontal enlargement value. Alter this using the keypad or press **ENTER** to leave unchanged. The vertical enlargement value will then be displayed and can also be altered.

Note: An asterisk ' * ' in the Alphanumeric display indicates a picture distortion. Only the current **horizontal** enlargement value is shown on the upper line of the display.

SELECT UNITS → **ENTER RULINGS IN LINES/INCH OR LINES/CENTIMETRE**

Buttons

CAL → 8 → 9 → 3 → ENTER

Display

```
INCHES IN RULING
IN = 0  CM = 1
```

1 If you require lines/cm

```
CM IN RULING
IN = 0  CM = 1
```

Alternatively, if the rulings are displayed in lines/cm and you require lines/in:

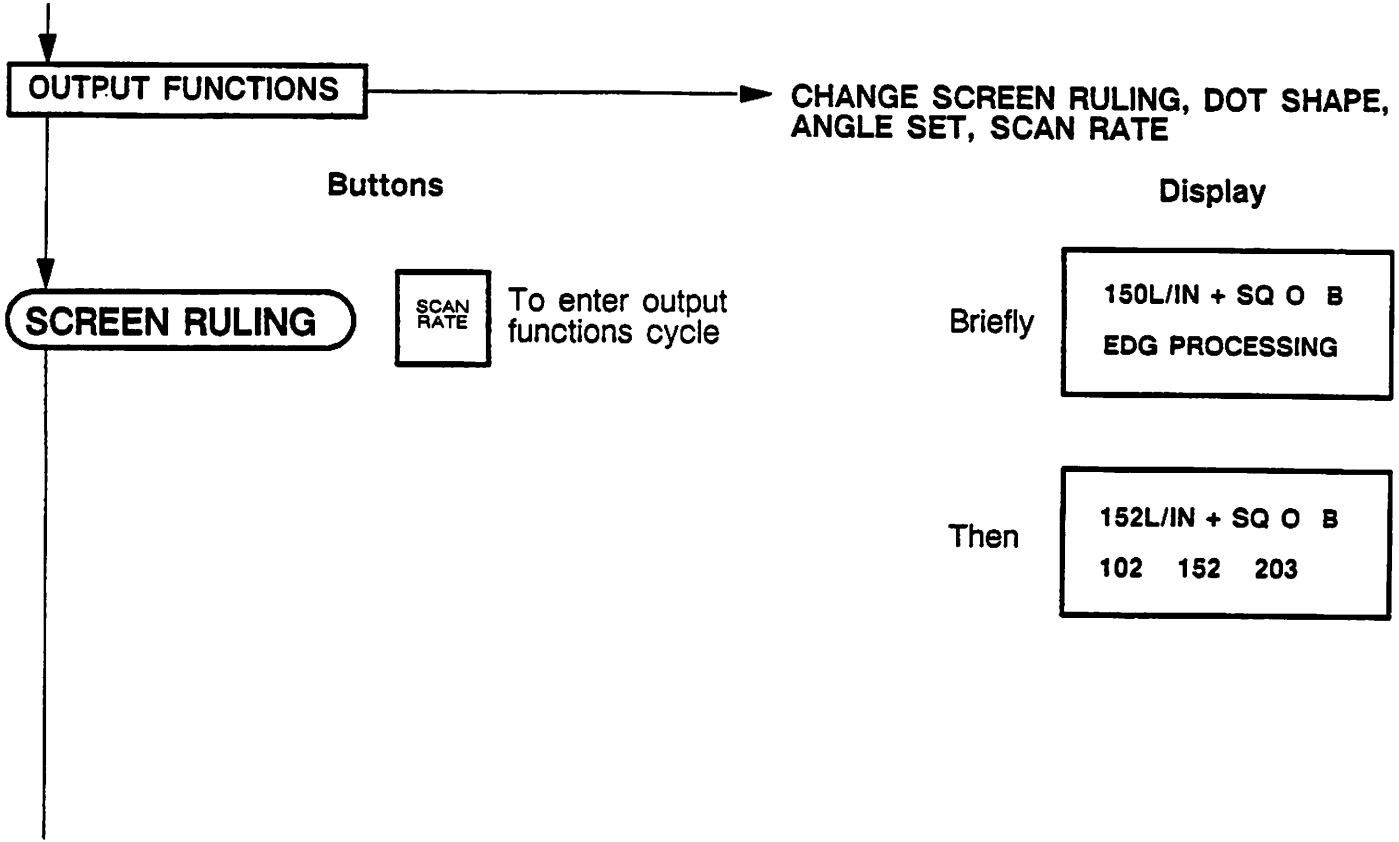
0 for lines/in

```
INCHES IN RULING
IN  = 0  CM  = 1
```

ENTER To return to monitor mode

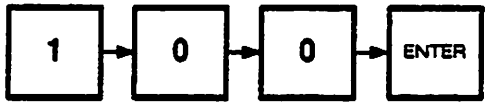
```
4 @  01.00  50  150
MAN  C  SEP  SCAN
```

You must enter the correct units before entering the output function cycle.


OUTPUT FUNCTIONS
CHANGE SCREEN RULING, DOT SHAPE, ANGLE SET, SCAN RATE
Buttons
Display
SCREEN RULING
SCAN RATE
To enter output functions cycle
Briefly
150L/IN + SQ O B
EDG PROCESSING
Then
152L/IN + SQ O B
102 152 203

Buttons **Display**

To change the ruling



Briefly

```
100L/IN + SQ O B
EDG PROCESSING
```

Then

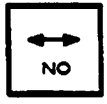
```
107L/IN + SQ O B
71  107  142
```

The nearest available ruling for the scan rate in use will be shown in top line.

The nearest available rulings for scan rates A, B and C are shown in bottom line.

Cursor indicates the ruling which will be output at the scan rate shown in the top line.

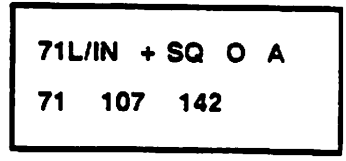
To select the next ruling/scan rate combination




```
142L/IN + SQ O C
71  107  142
```

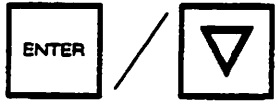
Buttons **Display**

To select the remaining ruling/scan rate combination



The current value display will show the angle set for the selected ruling.

To exit from the output functions cycle, or:



To move to the dot shape stage of the cycle.

DOT SHAPE

Buttons

Dot shape codes
0 = Square (SQ) default value
1 = Elliptical (EL)
2 = Round (RN)
3 = Auto typical gravure (GV)

Display

```
100L/N + SQ O A
DOT SHAPE CODE:
```

To select the dot shape required

For elliptical dot, specify breakpoint

```
100L/IN + EL O A
BPNT = 070/030%
```

Default value

Select any breakpoint from 0% to 100%.

When elliptical dot is chosen, angles shown in current value display will change.

Buttons

SCAN RATE — To exit from the output functions cycle, or:

ENTER / ▽ — To move to the angle set stage of the cycle.

Buttons

Display

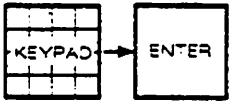
Angle set code

ANGLE SET

Angle set codes shown in 626/636/646 Operator's Manual, Document No. 6500-8690-00A, Section 10.

100L/IN + EL O A
ANGLE SET CODE

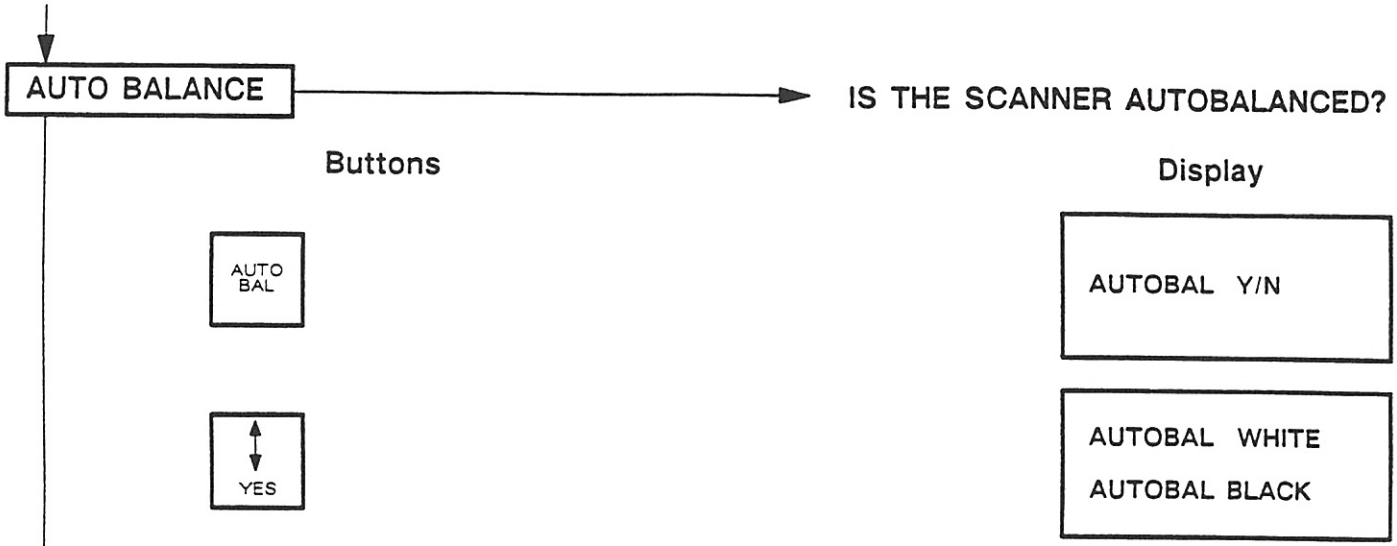
Note: A change in angle set will result in a change in screen ruling.



To select the angle set required

The new angle set will be shown in the current value display.

To exit from the output functions sequence.



Pressing **AUTOBAL** will start the automatic calibration and input machine sequence (similar to zeroing a densitometer).

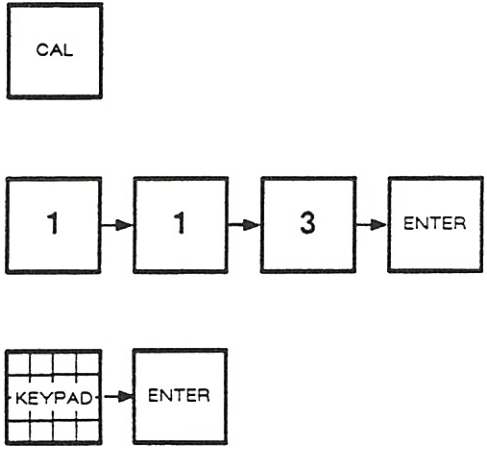
The end of autobalance is signalled with bleeps.

One bleep	= satisfactory autobalance
Three bleeps	= unsatisfactory autobalance

Note: The machine will still operate if three bleeps have been signalled, but with an incorrect input calibration.

PRINT (CV) CHARACTERISTICS → RECALL PARTICULAR CV'S

Buttons



Display

```
4@  01.00  50  150
CALIBRATE
```

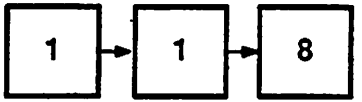
```
4 @  01.00  50  150
RECL  GBAL  BLOK?
```

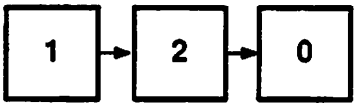
All recall CV procedures follow the above pattern.

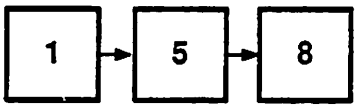
CAL numbers and displays are as follows:

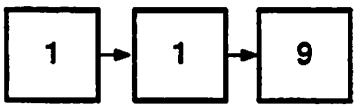
Buttons	Display
1 → 0 → 1	RECL OCAL BLOK?
1 → 1 → 0	RECL PTBS BLOK?
1 → 1 → 1	RECL BLAK BLOK?
1 → 1 → 2	RECL C.C. BLOK?

Buttons	Display
1 → 1 → 3	RECL GBAL BLOK?
1 → 1 → 4	RECL PCR BLOK?
1 → 1 → 5	RECL CST2 BLOK?
1 → 1 → 6	RECL CST1 BLOK?
1 → 1 → 7	RECL CLT BLOK?









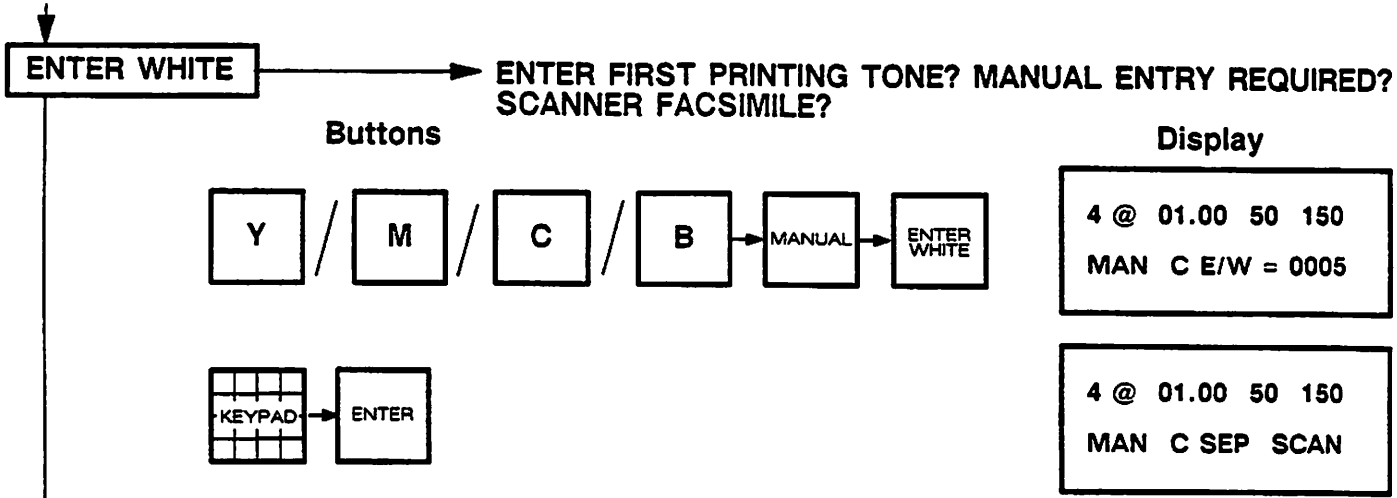
RECL LMTS BLOK?

RECL BRKP BLOK?

RECL USM BLOK?

RECL EDG BLOK?

Note: Every CV function has three sets of values which are stored in three CV blocks. You can call up a complete CV block for use as a JV block. Alternatively, you can take values of individual functions from different CV blocks.



ENTER WHITE must be set whilst viewing the area of the original which corresponds to your first printing tone.

ENTER WHITE will automatically cancel any cast edits.

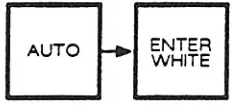
BLACK is selected to modify the black printer.

MANUAL is used to enter the lowest channel manually to reproduce scanner facsimile.

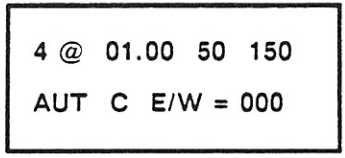
If **MANUAL** is followed by **ENTER** without using the **KEYPAD**, the default value entered will be that for the first printing tone.

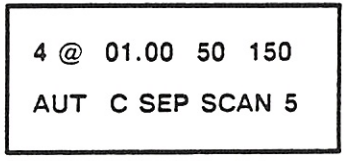
ENTER WHITE → PARTIAL CAST CORRECTION REQUIRED?

Buttons

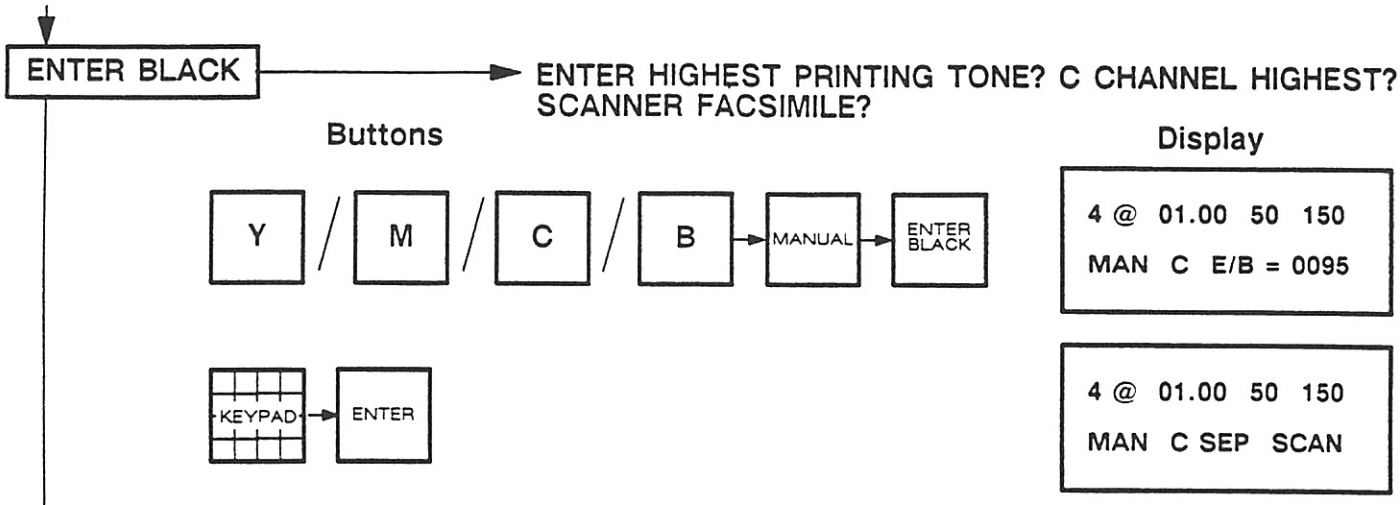


Display





AUTO is used to enter the lowest channel to a predetermined value. The remaining channels will be partially cast-corrected e.g. reducing a cast but still maintaining the colour bias. If **AUTO** is followed by **ENTER** without using the **KEYPAD**, the default value entered will be that for the first printing tone.



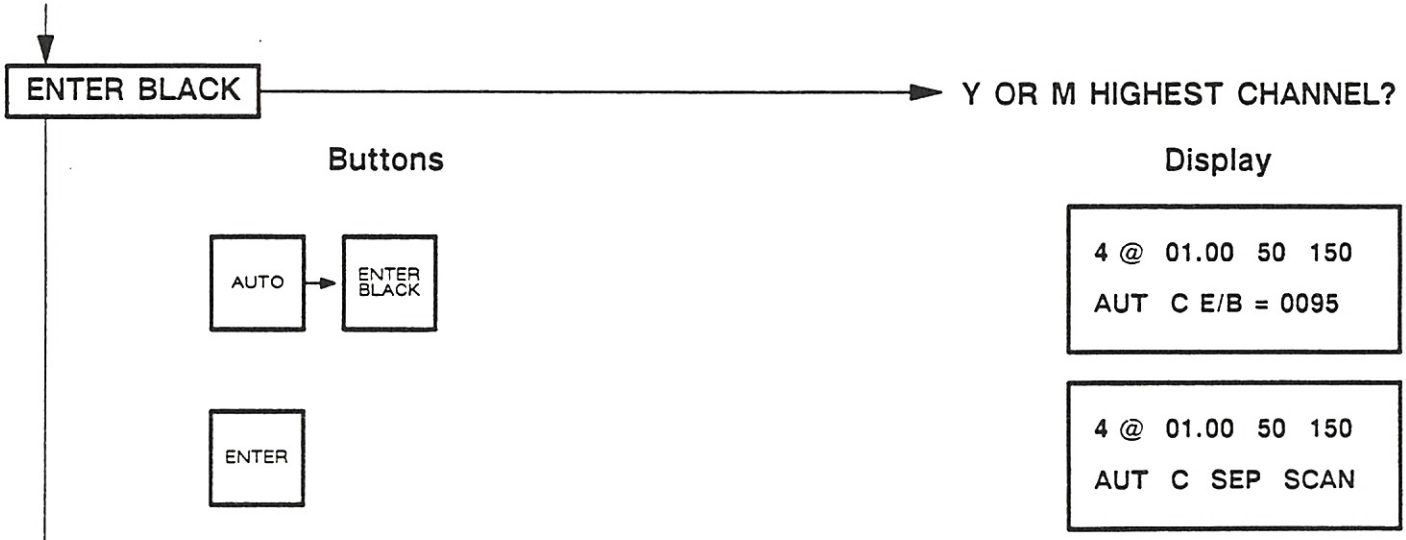
ENTER BLACK must be set whilst viewing the area of the original where your highest shadow occurs.

All the values are displayed with GB included. Use **SUPP EDIT** to see the entry values displayed without GB.

Use **BLACK** to modify the black printer. **ENTER BLACK** automatically cancels any tone or cast edits.

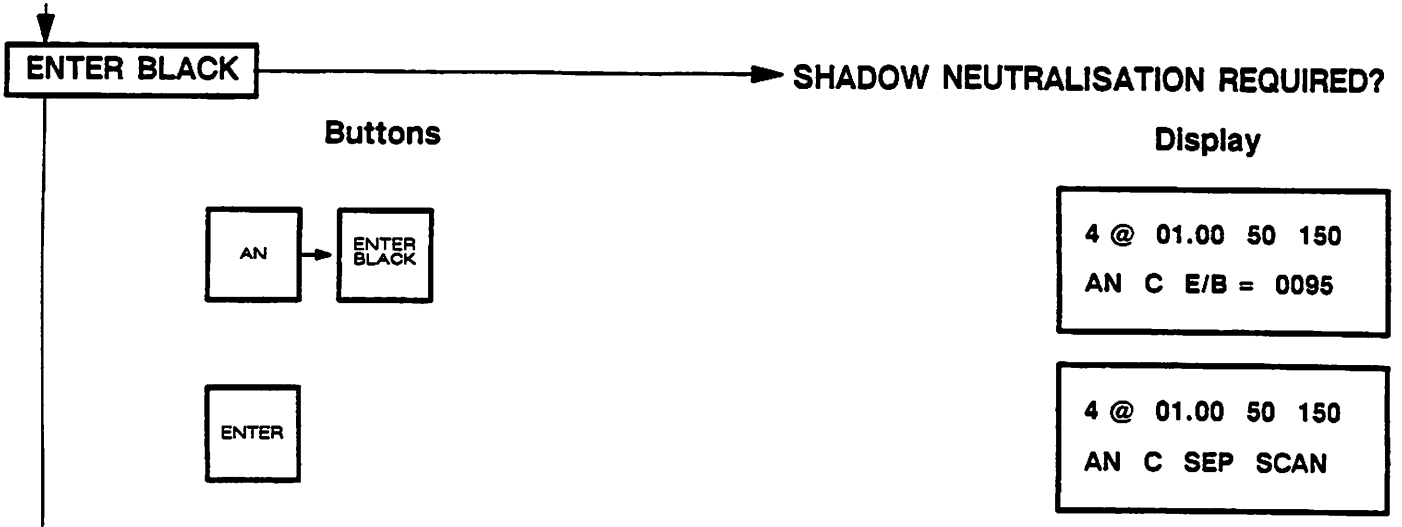
MANUAL is used to enter the highest channel manually to reproduce scanner facsimile.

Mainly used if C is the highest channel. If **MANUAL** is followed by **ENTER** without using **KEYPAD**, the default entry value will be applied.



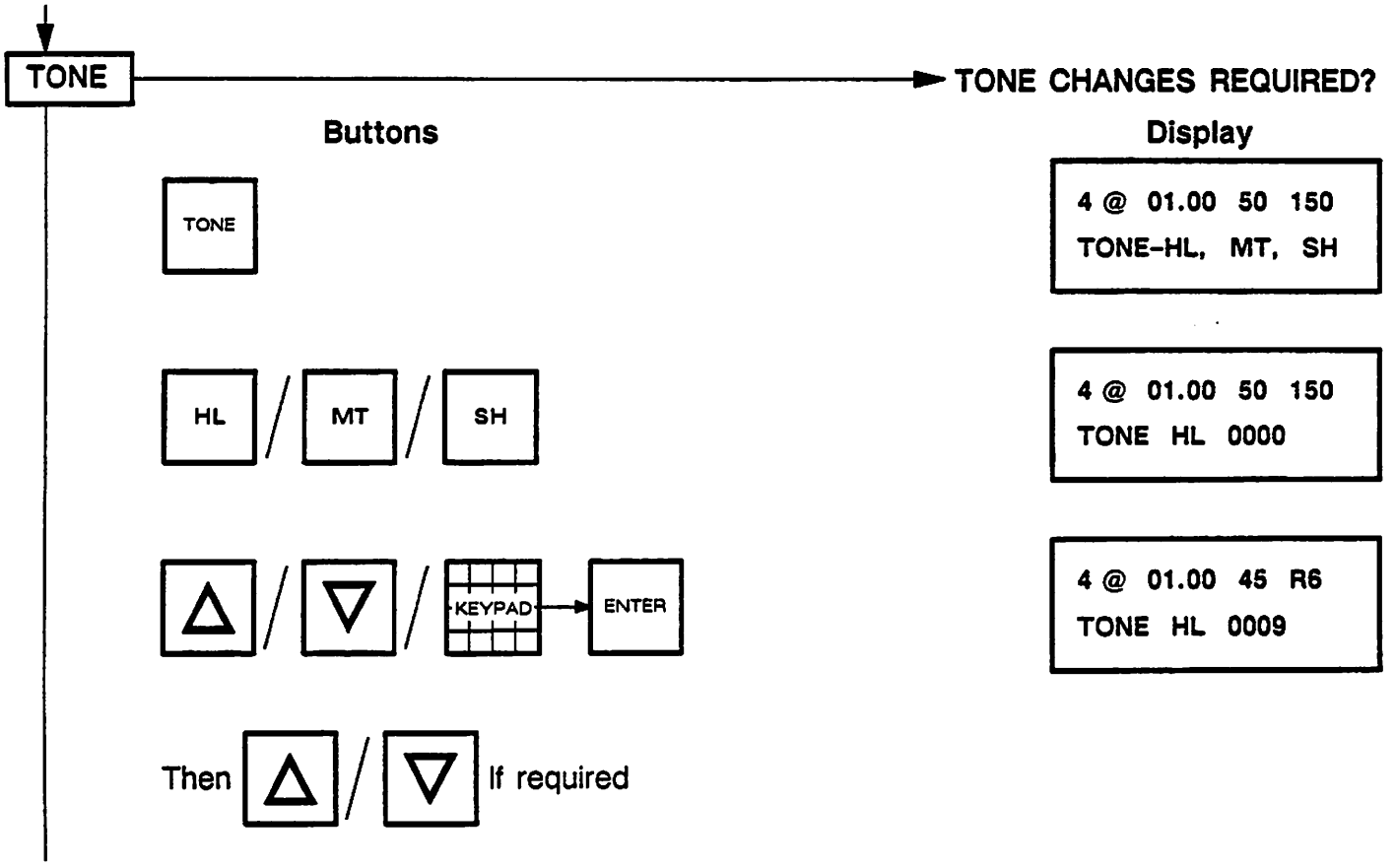
AUTO is used to enter the highest channel to a predetermined value (default value). The remaining channels will be set accordingly to maintain scanner facsimile.

Mainly used if Y or M is the highest channel. If **AUTO** is followed by **ENTER** without using **KEYPAD**, the default entry value will be applied.



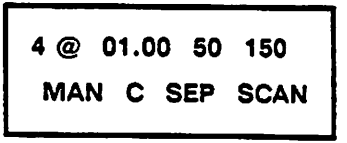
AN is used to neutralise your entry point by setting it to a predetermined default value.

If **AN** is followed by **ENTER** without using **KEYPAD**, the default entry value will first be applied, the display then returns to the appropriate monitor mode, as indicated, after a short pause.

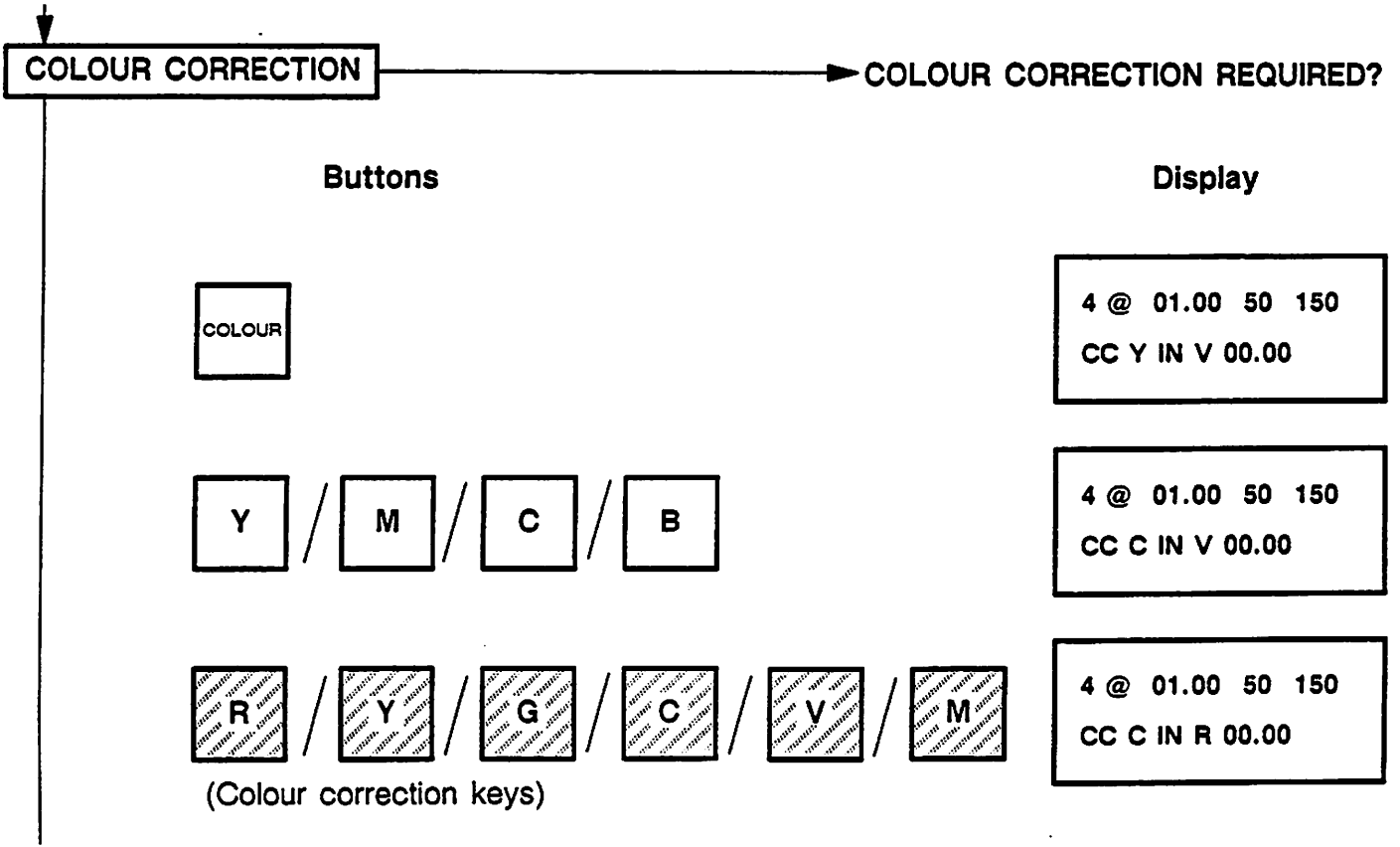

TONE
TONE CHANGES REQUIRED?
Buttons
Display
TONE
4 @ 01.00 50 150
TONE-HL, MT, SH
HL
MT
SH
4 @ 01.00 50 150
TONE HL 0000
KEYPAD
ENTER
4 @ 01.00 45 R6
TONE HL 0009
Then
If required

Buttons

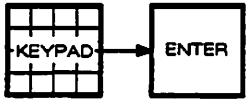
Display



TONE is used to change the tone values of the subject in HL/MT/SH areas. All colour channels are simultaneously changed. Change Index numbers with **INCREASE/DECREASE** or enter an Index number via the keypad. Press **TONE** to exit from this mode.

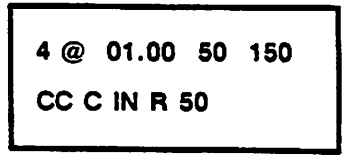

COLOUR CORRECTION
COLOUR CORRECTION REQUIRED?
Buttons
Display
COLOUR
4 @ 01.00 50 150
CC Y IN V 00.00
Y
M
C
B
4 @ 01.00 50 150
CC C IN V 00.00
R
Y
G
C
V
M
4 @ 01.00 50 150
CC C IN R 00.00
(Colour correction keys)

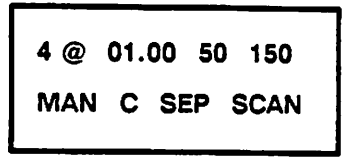
Buttons



If required

Display





CC is used to correct R/Y/G/C/V/M in the colour channels independently. Change Index numbers with **INCREASE/DECREASE** or enter dot% via the keypad.

The message **'Wrong Colour or Tonal Region'** indicates an unacceptable correction.

Press **COLOUR** again to exit from this mode.

PASTEL BOOST → SELECT MODE

Buttons

CAL → 5 → 1 → 6 → ENTER

KEYPAD

Display

SET PASTEL EDIT
MODE 0, 1, OR 2

SET PASTEL EDIT
1 = CLEAN PASTELS

0/1/2 are for All Pastels/Clean Pastels/Dirty Pastels respectively;
0 for All Pastels will be selected by default.

ENTER

2V 1.00 00 150
MAN C SEP SCAN

PASTEL BOOST → ALL CHANNELS

Buttons

Display

COLOUR →

PASTEL R 00.00

B

KEYPAD — Apply three-digit decimal factor in range 0.00 to 2.00

ENTER — (Assuming 1.00 is factor applied)

PASTEL ALL 01.00

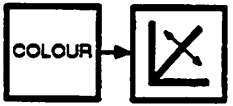
COLOUR — Press twice to return to monitor mode

2V 01.00 50 150
MAN C SEP SCAN

PASTEL BOOST → COLOUR SELECTIVE BOOST

Buttons

Display



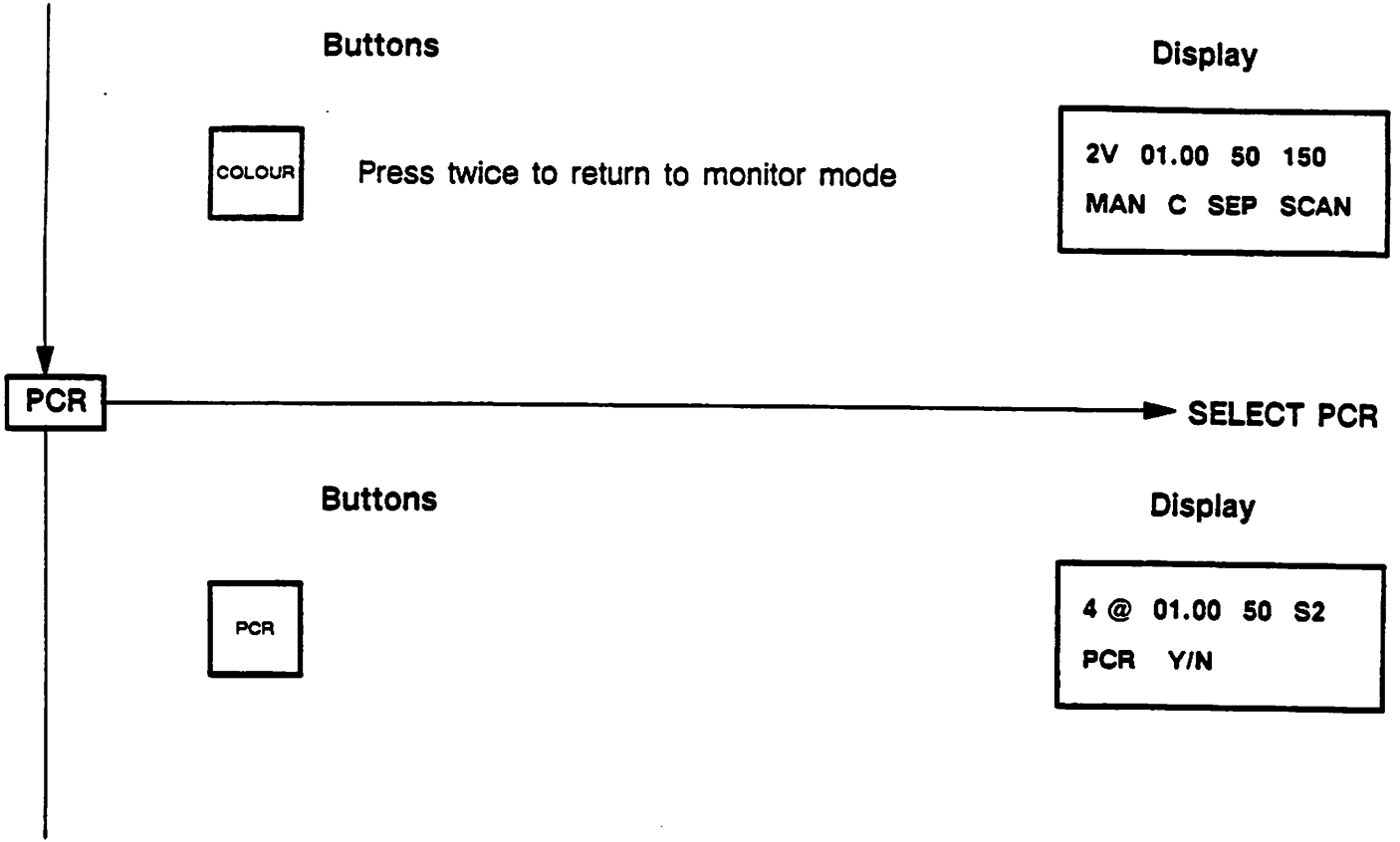
PASTEL R 00.00

(Colour correction keys)

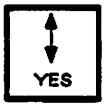
Apply three-digit decimal factor in range 0.00 to 2.00

(Assuming Y is selected with factor 1.0)

PASTEL Y 01.00


Buttons
Display
COLOUR
Press twice to return to monitor mode
2V 01.00 50 150
MAN C SEP SCAN
PCR
SELECT PCR
Buttons
Display
PCR
4 @ 01.00 50 S2
PCR Y/N

Buttons



Display

```
4 @  01.00  50  S2
PCR  GAIN  00.00
```

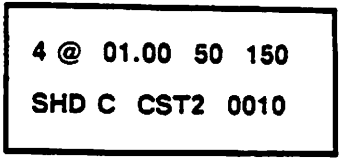
To enter a 3-digit decimal value between 0.00 and 1.00 for the proportion of PCR required.

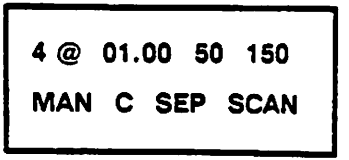
CAST 2 → ADJUST SH NEUTRALS?

Buttons

Display

```
4 @  01.00  50  150
SHD  C  CST2  0000
```





CAST 2 is used to remove or to introduce a cast into neutral shadows. This function is channel-selective. It works only on neutrals, not on colours.

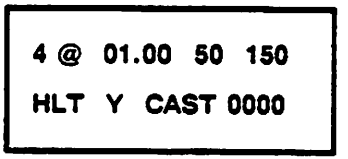
CAST 2 must be adjusted **before CAST 1**

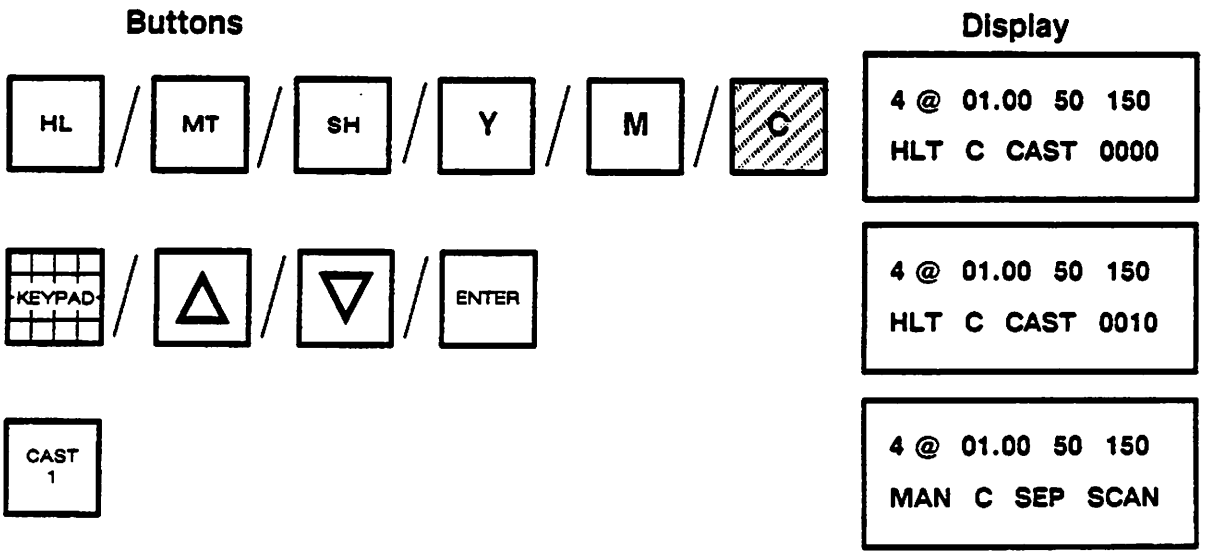
Press **CAST 2** again to exit from this mode.

CAST 1 → **ADJUST CAST?**

Buttons

Display



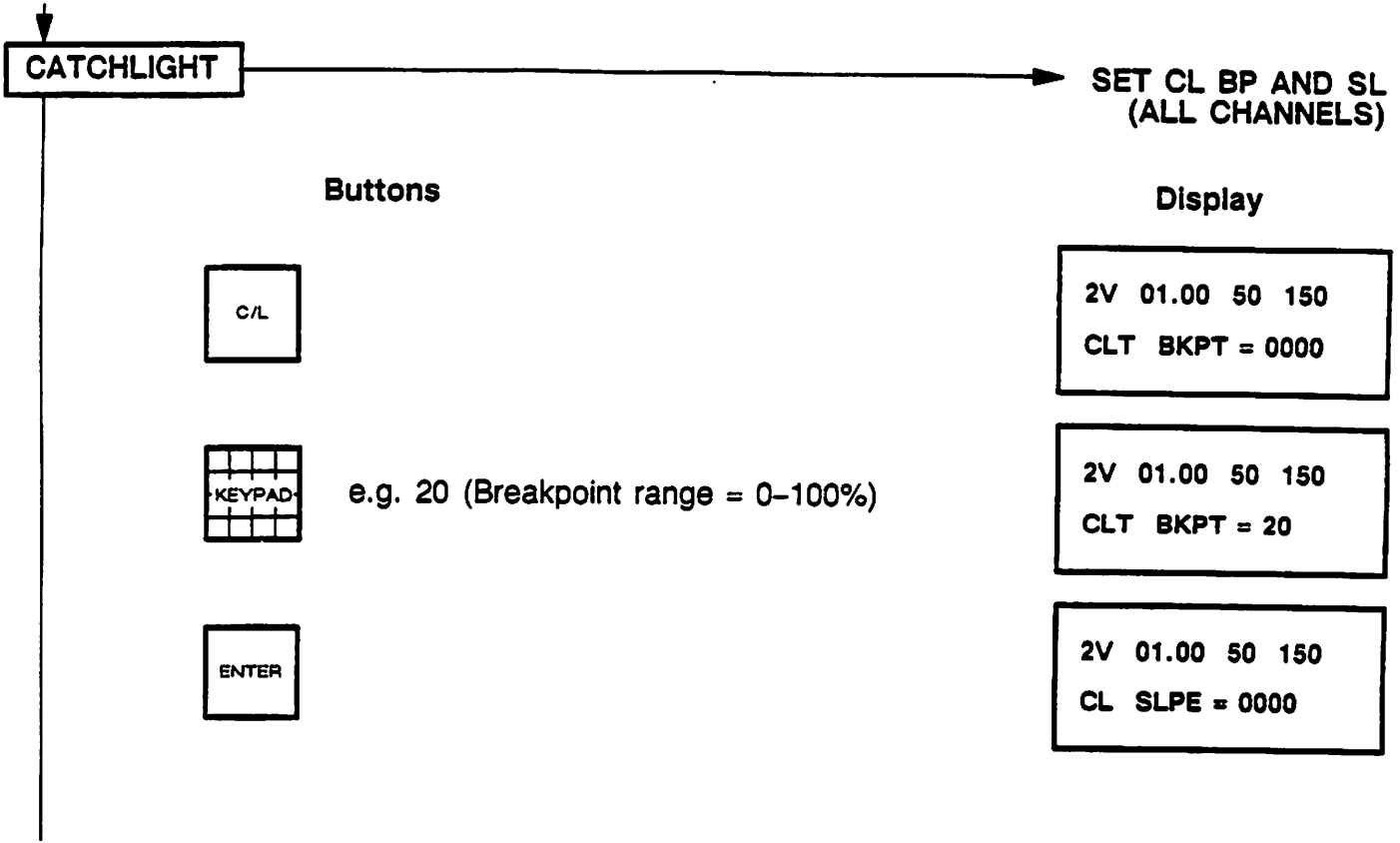


CAST 1 is used to remove or to introduce a Cast into HL, MT, and/or SH, colours, and neutral areas.

CAST 1 is channel selective and will affect colours and neutrals alike.

CAST 1 must be adjusted **after CAST 2.**

Press **CAST 1** again to exit from this mode.

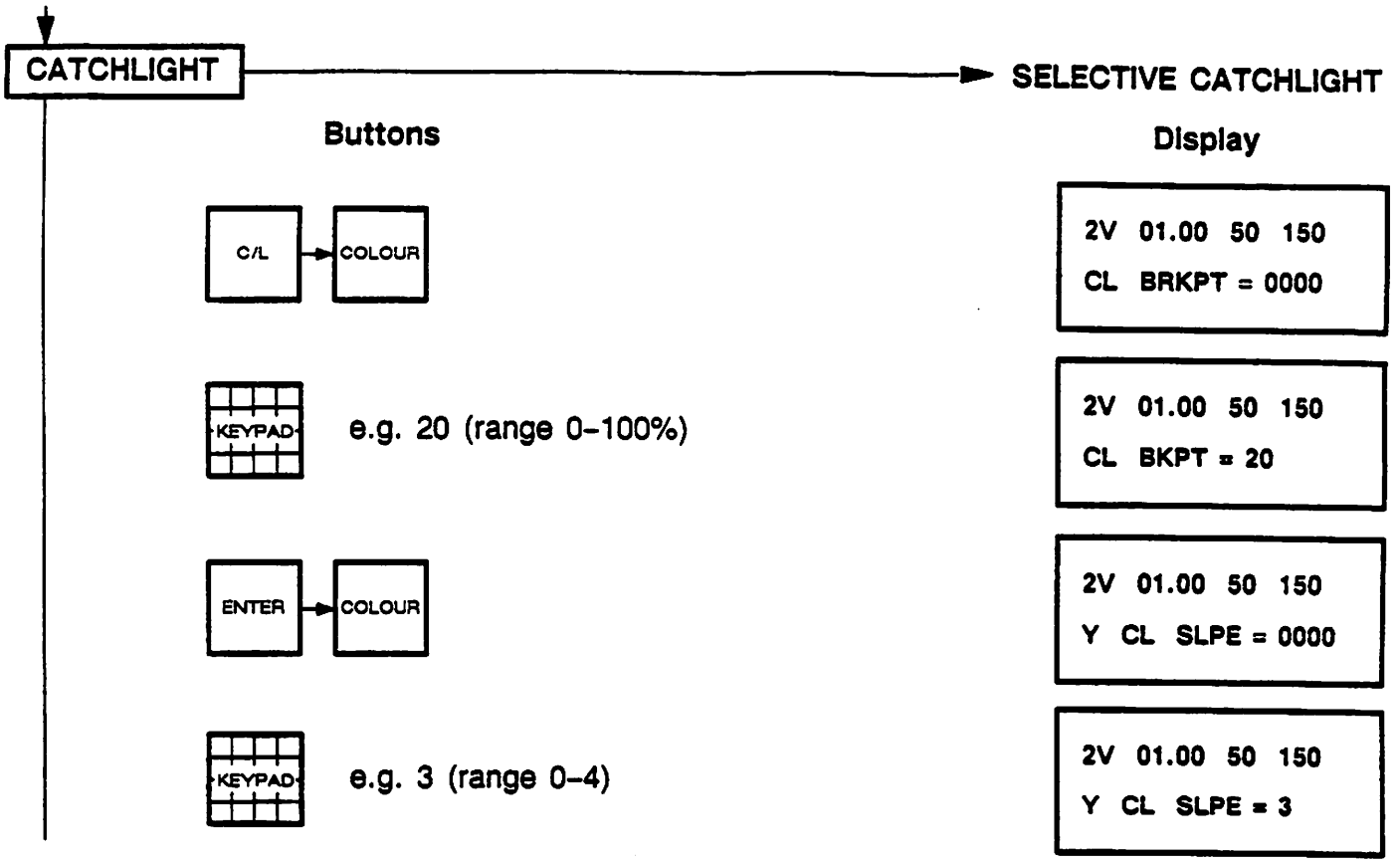

CATCHLIGHT
SET CL BP AND SL
(ALL CHANNELS)
Buttons
Display
C/L
2V 01.00 50 150
CLT BKPT = 0000
KEYPAD
e.g. 20 (Breakpoint range = 0–100%)
2V 01.00 50 150
CLT BKPT = 20
ENTER
2V 01.00 50 150
CL SLPE = 0000

Buttons		Display
	e.g. 2 (Slope range = 0–4)	2V 01.00 50 150 CL SLPE = 2
	Return to monitor mode	2V 01.00 50 150 MAN B SEP SCAN

The Catchlight slope provides a drop-out up to the Catchlight breakpoint. The breakpoint would normally be set to any point in the lower half of the tone curve. The slope has any of five pre-set values:

zero = No slope

4 = Maximum drop-out


CATCHLIGHT
SELECTIVE CATCHLIGHT
Buttons
Display
C/L
COLOUR
2V 01.00 50 150
CL BRKPT = 0000
KEYPAD
e.g. 20 (range 0–100%)
2V 01.00 50 150
CL BKPT = 20
ENTER
COLOUR
2V 01.00 50 150
Y CL SLPE = 0000
KEYPAD
e.g. 3 (range 0–4)
2V 01.00 50 150
Y CL SLPE = 3

e.g. 4 (range 0–4)

e.g. 2 (range 0–4)

Returns to monitor mode

```
2V  01.00  50  150
M  CL  SLPE = 0000
```

```
2V  01.00  50  150
M  CL  SLPE = 4
```

```
2V  01.00  50  150
C  CL  SLPE = 0000
```

```
2V  01.00  50  150
C  CL  SLPE = 2
```

```
2V  01.00  50  150
MAN  B  SEP  SCAN
```

Note: 1. The **ENTER** key may be used for stepping forward.

2. If the Channel Selective Catchlight function has been used, an * appears initially on the lower line of the display either before **CL BKPT** upon re-entry of **C/L** or before **CL SLPE** upon interrogation by C/L → [X] .

USM → **SELECT USM LEVELS**

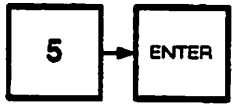
Buttons

USM

Display

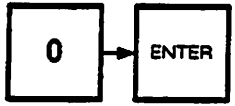
Y=Y M=C C=C B*
USM SHARP (0-9)

* Black fringe



Y=Y M=M C=C B*
USM SMOOTH (0-9)

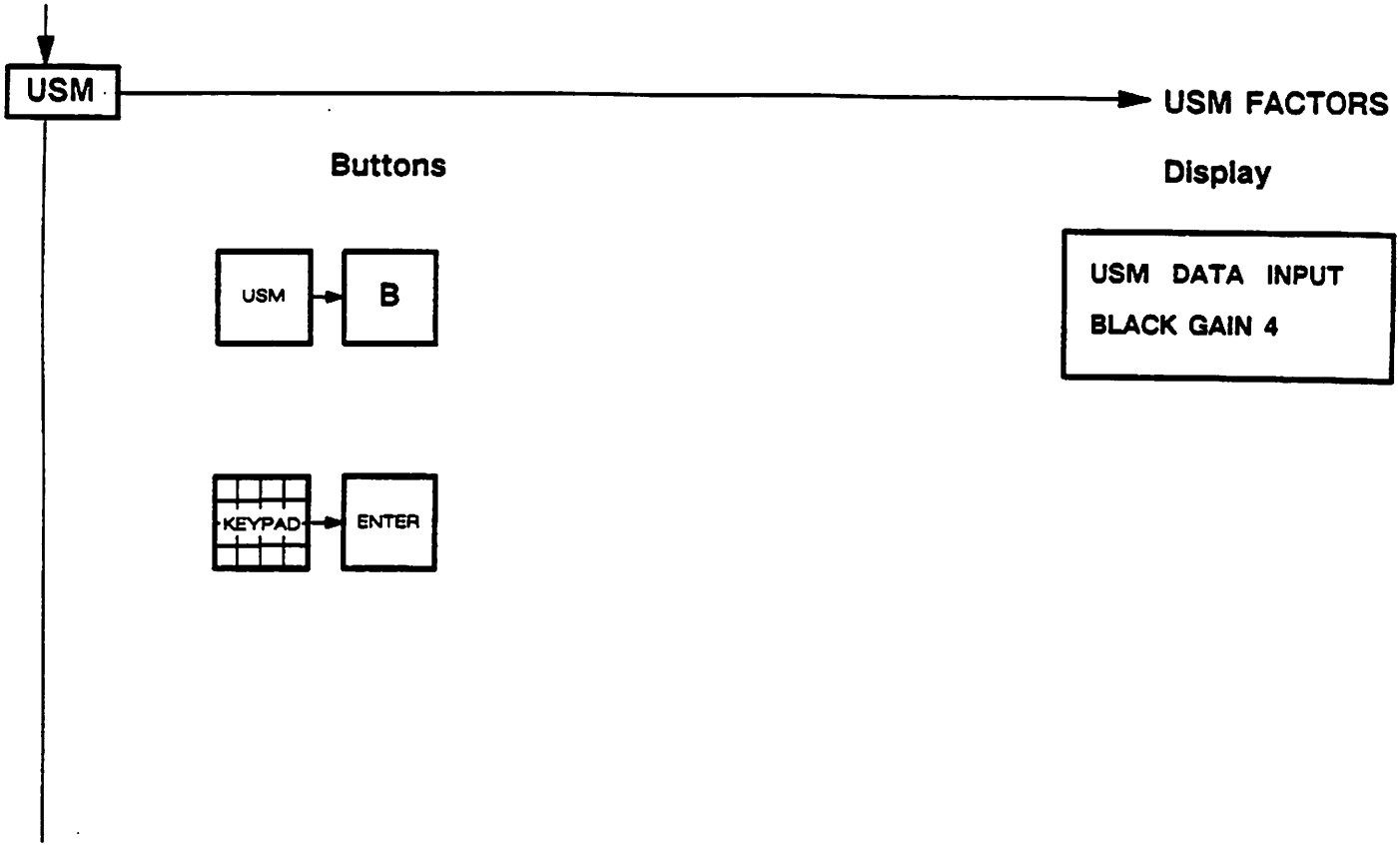
* Black fringe

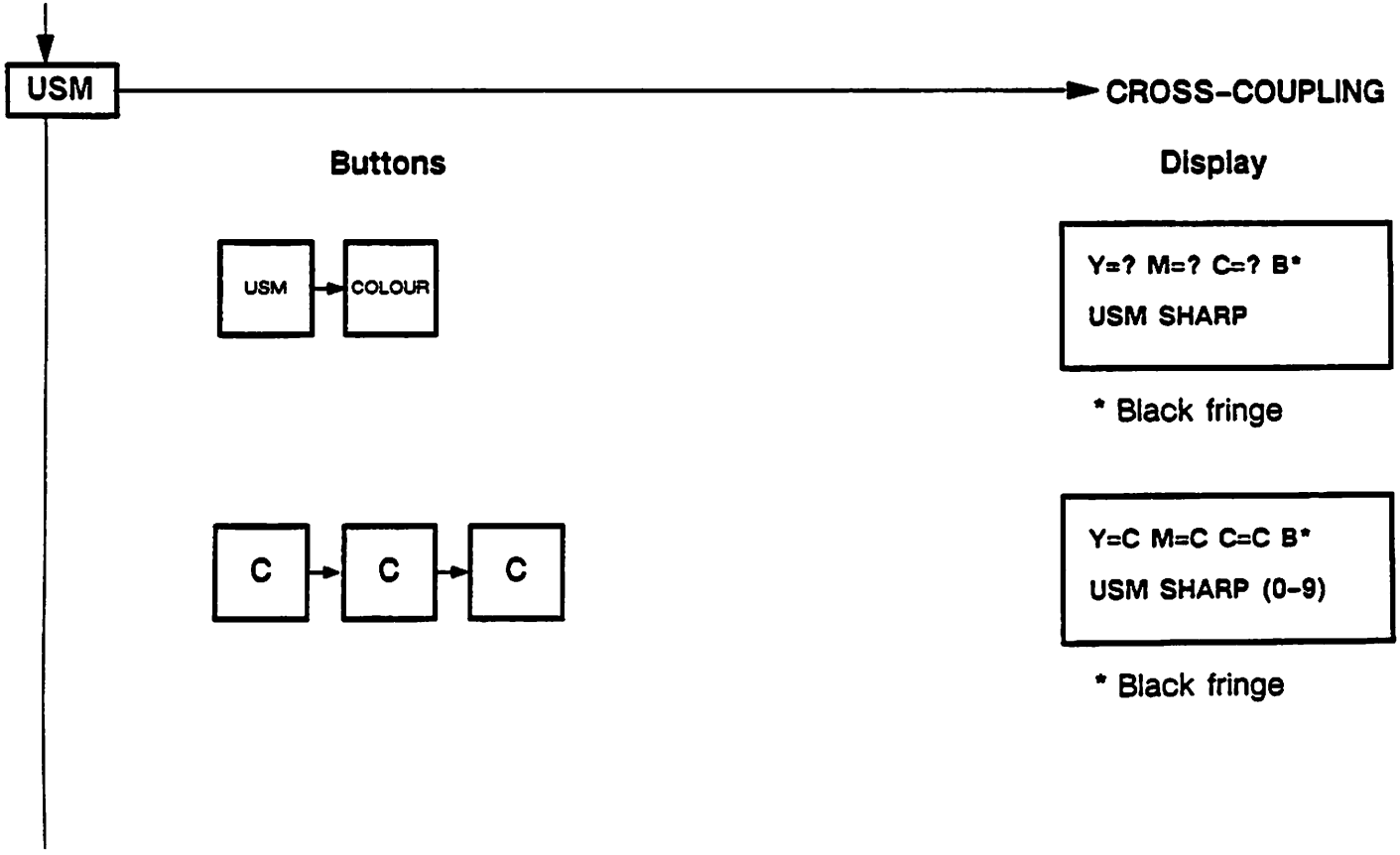


4 @ 01.00 50 150
MAN C SEP SCAN

Note: 1. The BV default values for fringe channels will be Y=Y, M=M, and C=C.

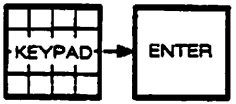
2. Refer to Appendix A for detail on USM functions and values.


USM
USM FACTORS
Buttons
Display
USM
B
USM DATA INPUT
BLACK GAIN 4
KEYPAD
ENTER


USM
CROSS-COUPLING
Buttons
Display
USM
COLOUR
Y=? M=? C=? B*
USM SHARP
* Black fringe
C
C
C
Y=C M=C C=C B*
USM SHARP (0-9)
* Black fringe

USM → USM FACTORS

Buttons | **Display**

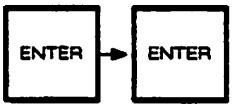


(a) Input new sharp value (range 0–9) and press **ENTER**, then

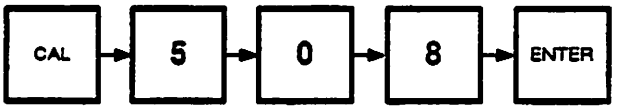
(b) Input new smooth value (range 0–9) and press **ENTER**

or

– Press:

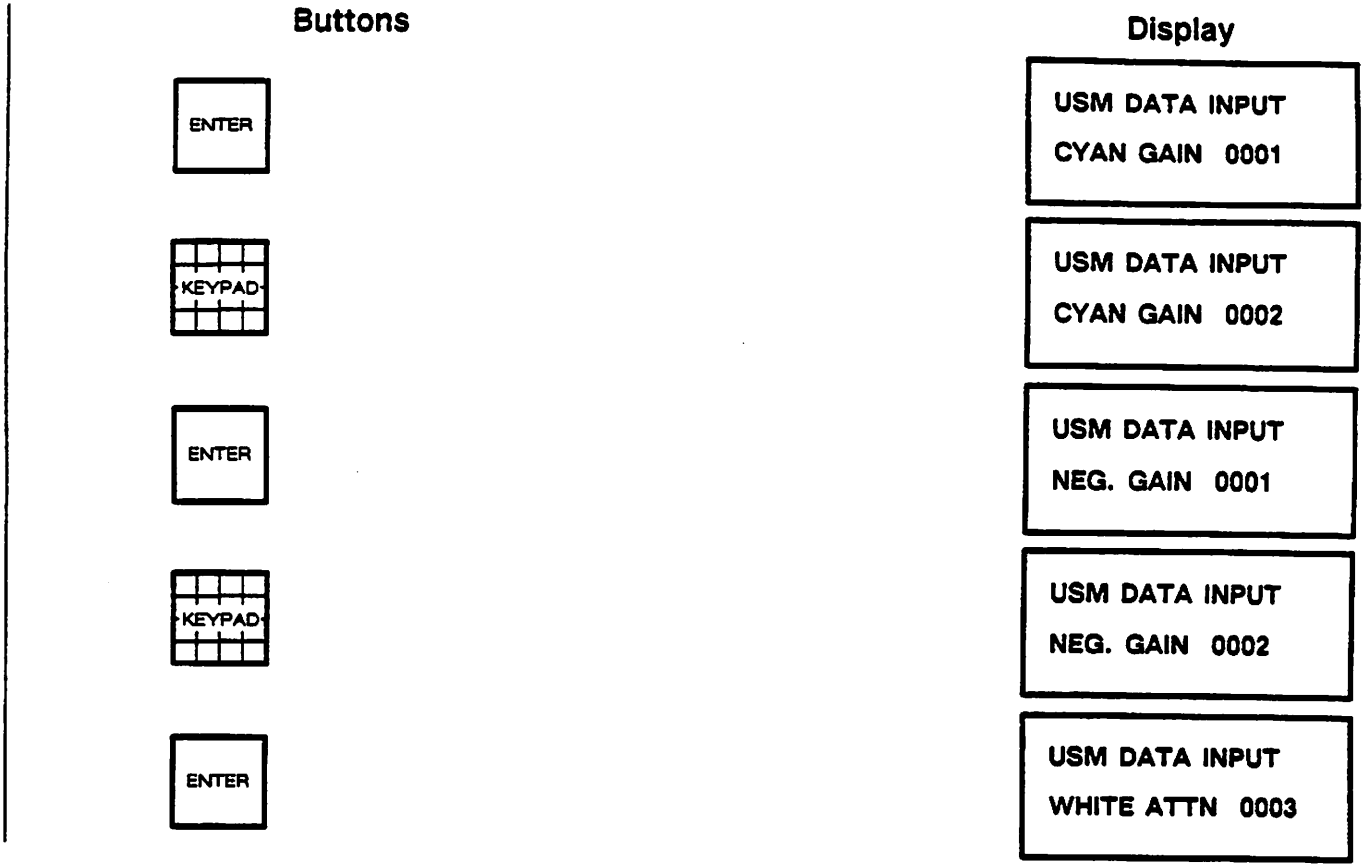


To re-input existing sharp and smooth values.

Buttons	Display
	USM DATA INPUT THRESHOLD 0005
(e.g. select 6 as new value)	USM DATA INPUT THRESHOLD 6
The next factor is displayed on pressing **ENTER.**	USM DATA INPUT FRNG. CLIP 0127
(e.g. 100)	USM DATA INPUT FRNG. CLIP 0100

Buttons	Display
ENTER	USM DATA INPUT DENSITY 1 150
KEYPAD	USM DATA INPUT DENSITY 1 160
ENTER	USM DATA INPUT DENSITY 2 255
KEYPAD	USM DATA INPUT DENSITY 2 245

Buttons	Display
ENTER	USM DATA INPUT YEL. GAIN 0003
KEYPAD	USM DATA INPUT YEL. GAIN 0004
ENTER	USM DATA INPUT MAG. GAIN 0001
KEYPAD	USM DATA INPUT MAG. GAIN 0002


Buttons
Display
ENTER
KEYPAD
ENTER
KEYPAD
ENTER
USM DATA INPUT
CYAN GAIN 0001
USM DATA INPUT
CYAN GAIN 0002
USM DATA INPUT
NEG. GAIN 0001
USM DATA INPUT
NEG. GAIN 0002
USM DATA INPUT
WHITE ATTN 0003

Buttons

Display

KEYPAD

USM DATA INPUT
WHITE ATTN 0004

ENTER

Return to monitor mode.

4 @ 01.00 50 150
MAN C SEP SCAN

You can check or re-enter values using the ▽/△ buttons to step forwards/backwards through the sequence before returning to monitor mode.

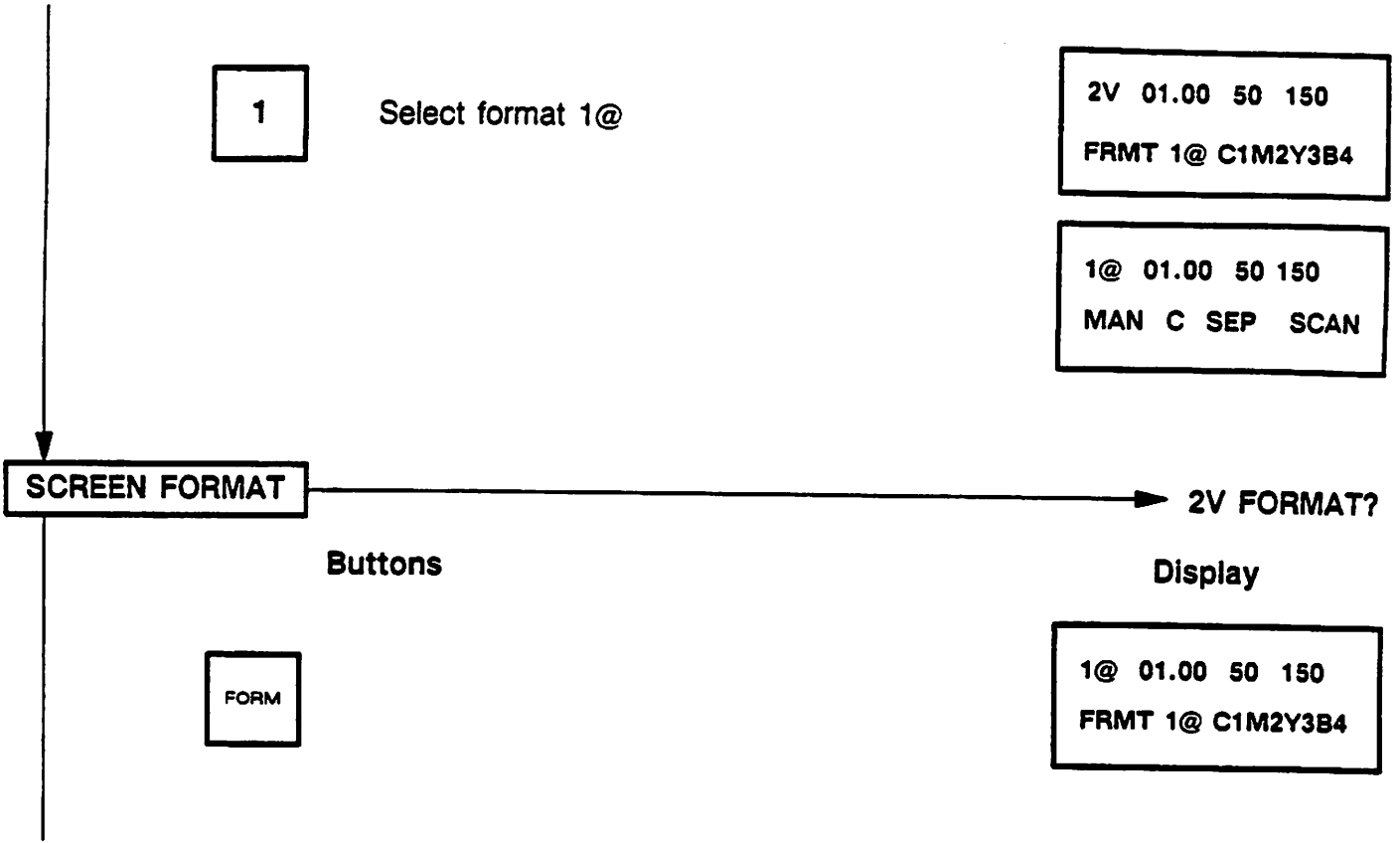
SCREEN FORMAT → **1@ FORMAT?**

Buttons

Display

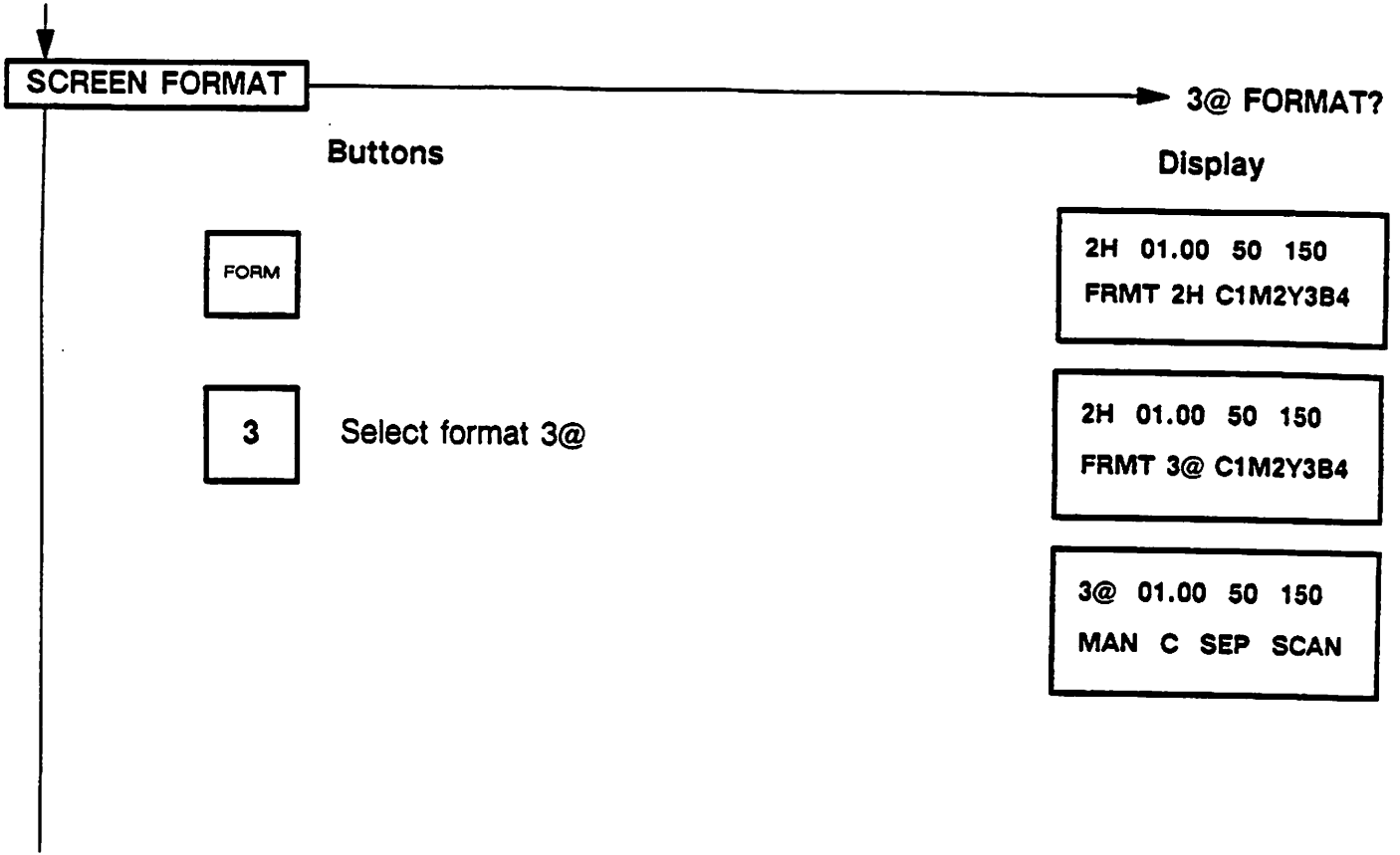
FORM

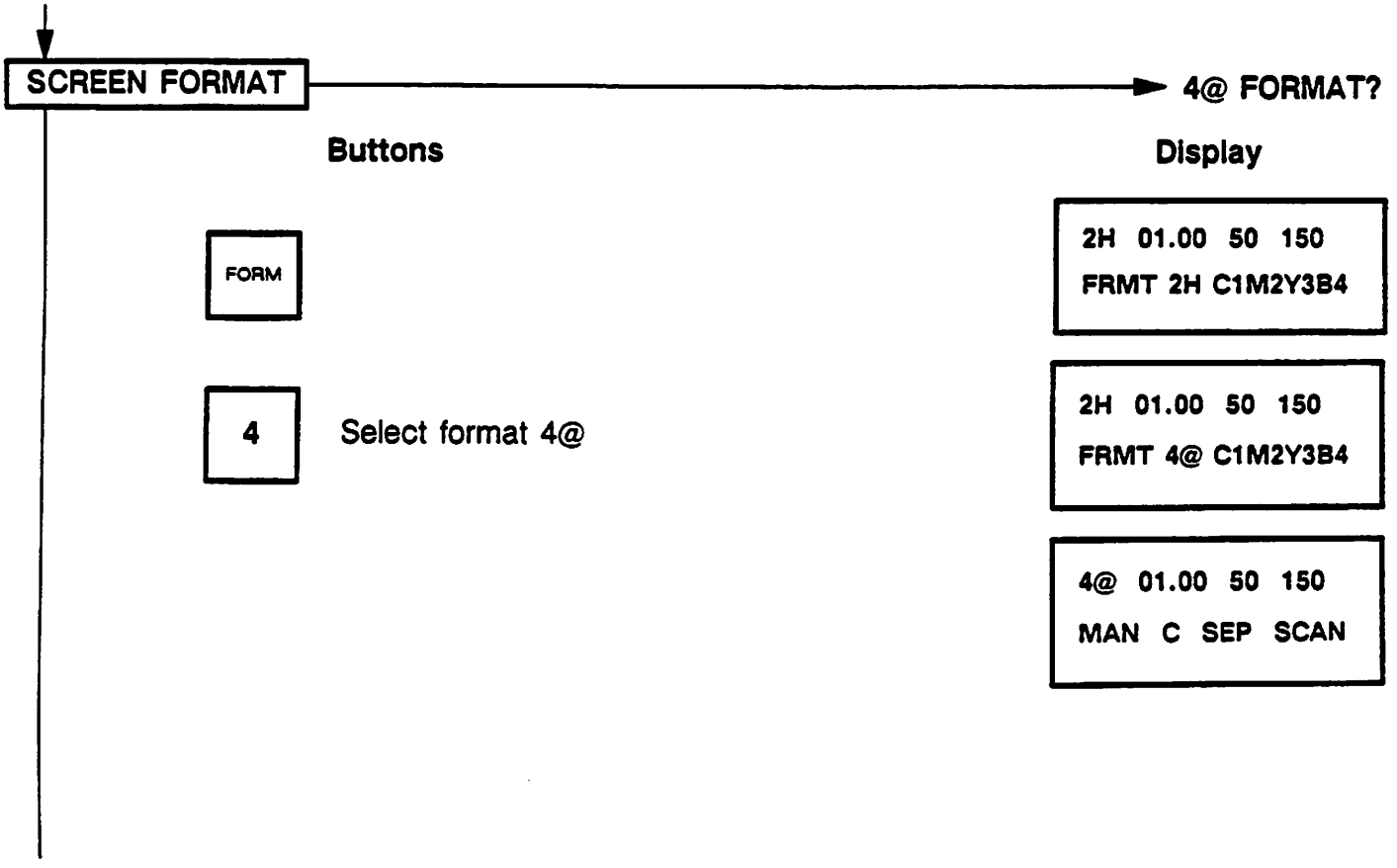
2V 01.00 50 150
FRMT 2V C1M2Y3B4

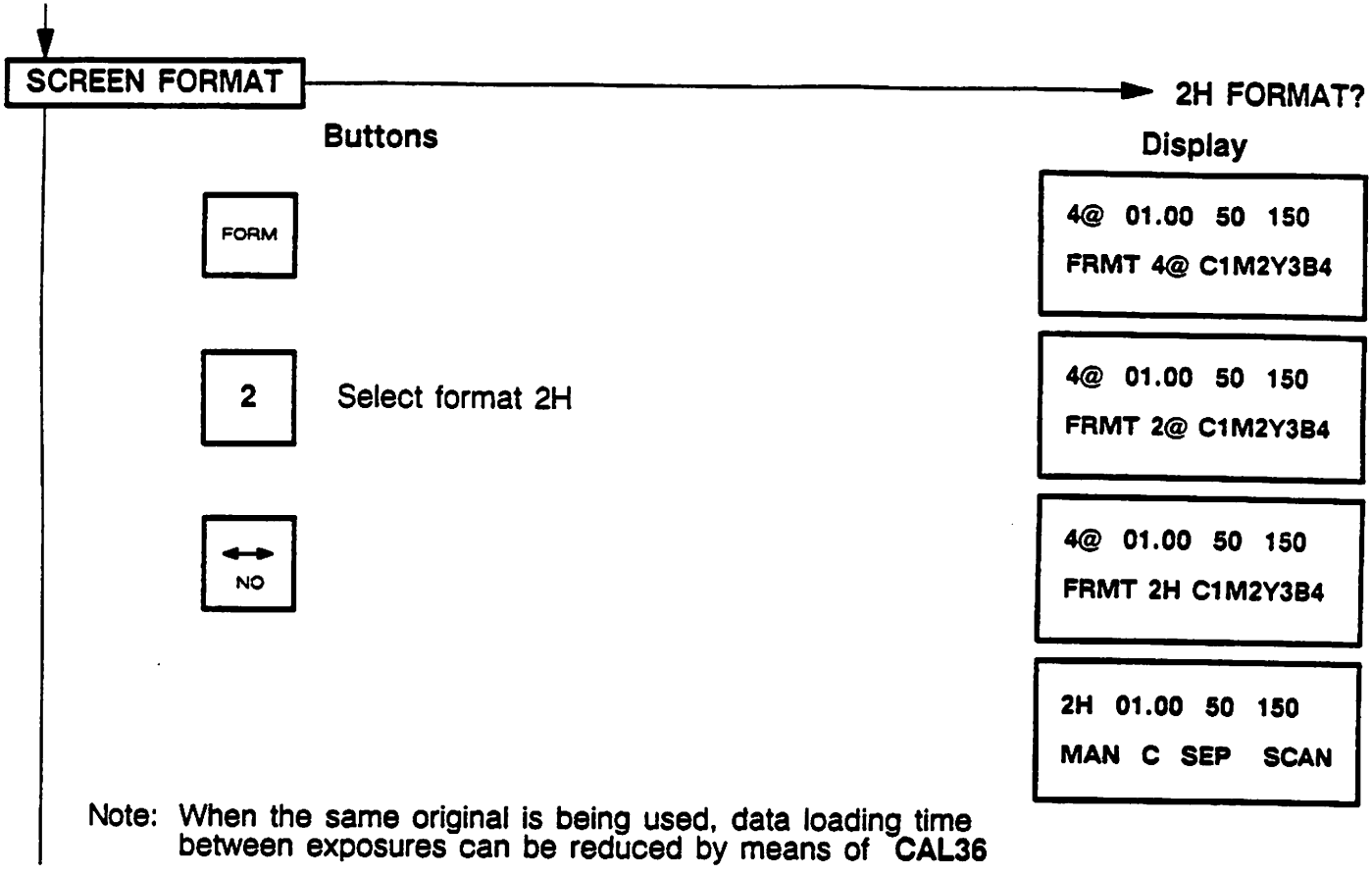

1
Select format 1@
2V 01.00 50 150
FRMT 1@ C1M2Y3B4
1@ 01.00 50 150
MAN C SEP SCAN
SCREEN FORMAT
2V FORMAT?
Buttons
Display
FORM
1@ 01.00 50 150
FRMT 1@ C1M2Y3B4

Buttons		Display
2		1@ 01.00 50 150 FRMT 2@ CIM2Y3B4
↕ YES	Select format 2V	1@ 01.00 50 150 FRMT 2V C1M2Y3B4
		2V 01.00 50 150 MAN C SEP SCAN

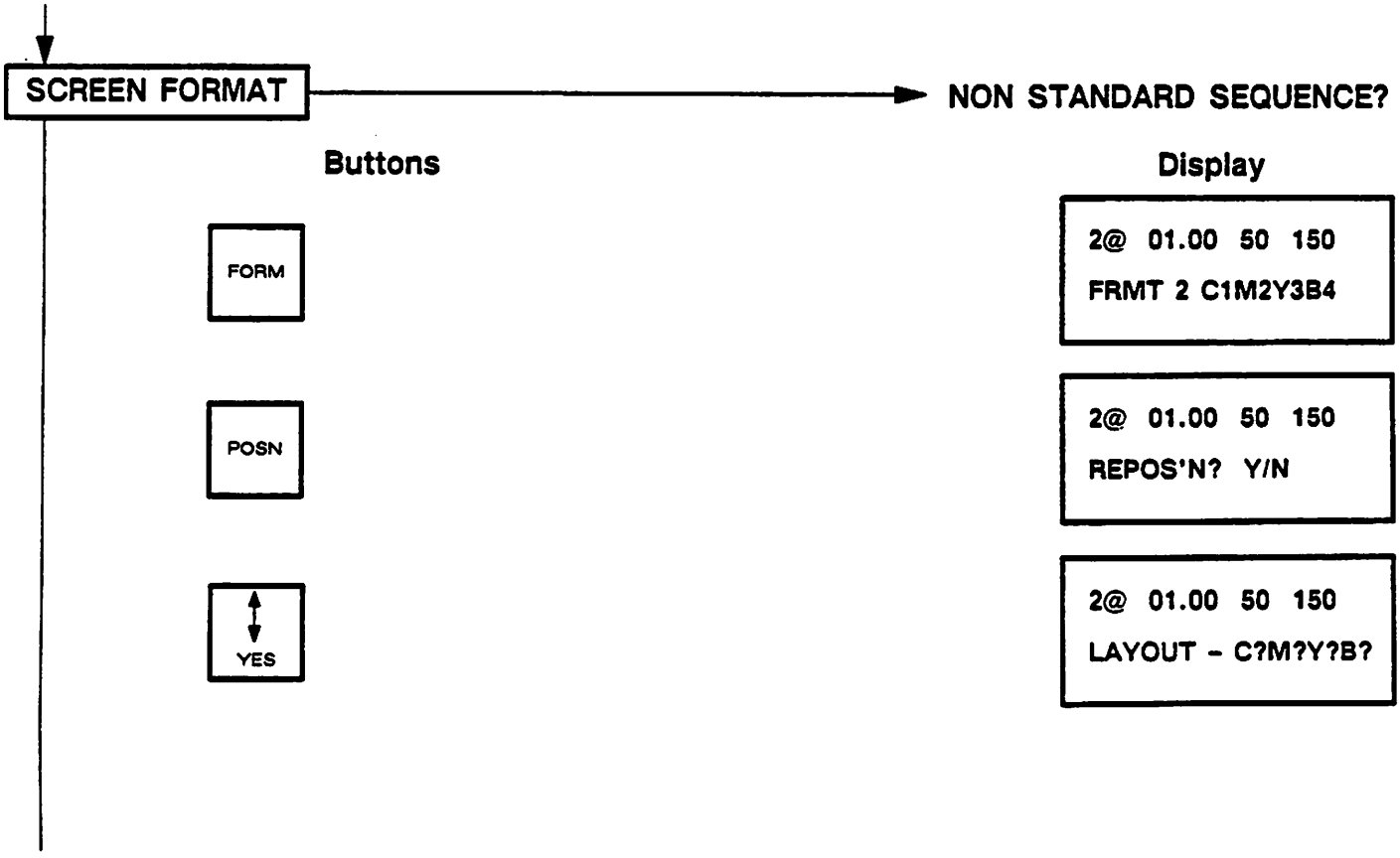
Note: Only 1@ and 2V (1-up and 2-up) formats are applicable to 626 scanners. For 636 and 646 scanners any of five formats are available: 1@, 2V, 3@, 4@ and 2H (Auto Rescan)


SCREEN FORMAT
3@ FORMAT?
Buttons
Display
FORM
2H 01.00 50 150
FRMT 2H C1M2Y3B4
3
Select format 3@
2H 01.00 50 150
FRMT 3@ C1M2Y3B4
3@ 01.00 50 150
MAN C SEP SCAN

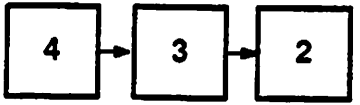

SCREEN FORMAT
4@ FORMAT?
Buttons
Display
FORM
2H 01.00 50 150
FRMT 2H C1M2Y3B4
4
Select format 4@
2H 01.00 50 150
FRMT 4@ C1M2Y3B4
4@ 01.00 50 150
MAN C SEP SCAN



Note: When the same original is being used, data loading time between exposures can be reduced by means of **CAL36**


SCREEN FORMAT
NON STANDARD SEQUENCE?
Buttons
Display
FORM
POSN
YES
2@ 01.00 50 150
FRMT 2 C1M2Y3B4
2@ 01.00 50 150
REPOS'N? Y/N
2@ 01.00 50 150
LAYOUT - C?M?Y?B?

Buttons



Display

```
2@  01.00  50  150
LAYOUT = C4M3Y2B1
```

The standard colour sequence is C1–M2–Y3–B4. A non–standard colour sequence can be used if you number the colours with the screen to be used.

A non–standard colour sequence is C4–M3–Y2–B1

1 = Cyan screen
2 = Magenta screen
3 = Yellow screen
4 = Black screen

SCREEN FORMAT → **'FILM SAVE'?**

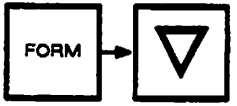
Buttons

Display

```
EXPOSURE ON UPPER
1/2  OF FILM ONLY
```

Expose separations onto the upper half of the output film then:

Buttons

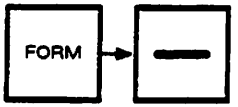


Display

EXPOSE ON LOWER
1/2 OF FILM ONLY

Expose separations onto the bottom half of the output film.

To cancel the film-save mode,



LATERAL REVERSAL → RIGHT OR WRONG READING RESULTS?

Buttons

LAT REV causes the scanner to reverse images from left to right where:

Button Illuminated	= Right Reading
Button Not Illuminated	= Wrong Reading

Note: If a right reading result is required from a transparency emulsion–up, the analyse head will have to be set to the right–hand end of the original.

NEG/POS → **NEG OR POS OUTPUT REQUIRED?**

Buttons

NEG causes the scanner to output negatives:

Button Illuminated = Negative Result

Button Not Illuminated = Positive Result

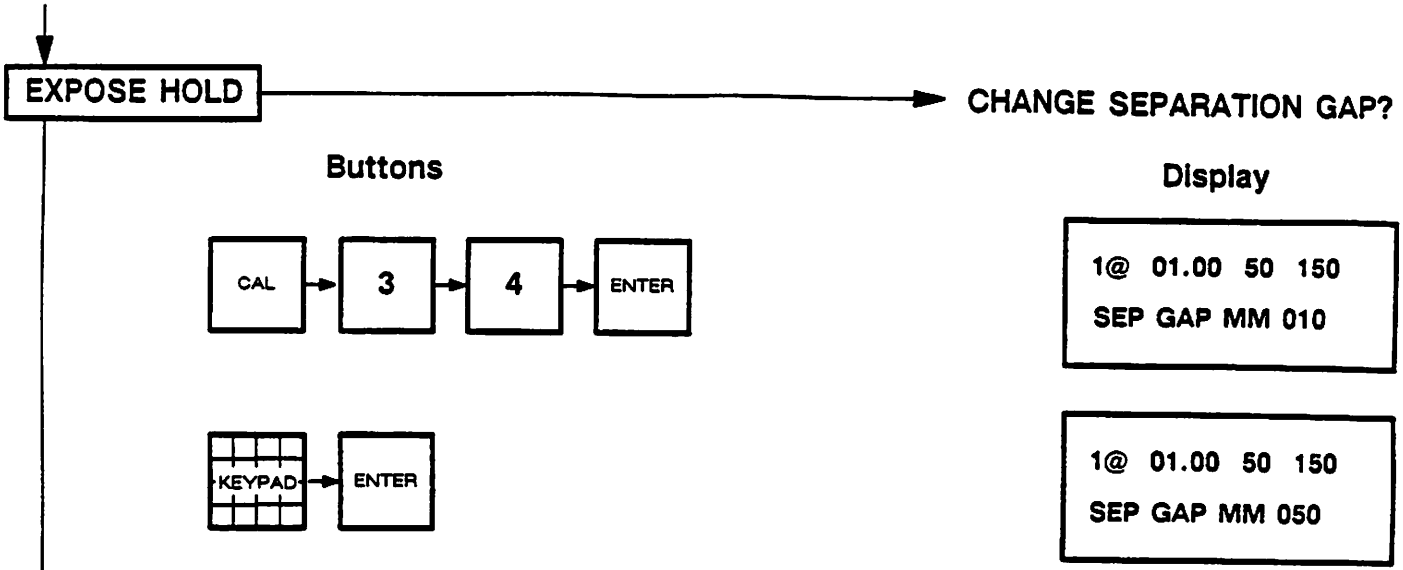
Note: Pressing **NEG** at this stage converts the positive set-up of the job to negative set-up.

EXPOSE HOLD → **MORE EXPOSURES ON SAME FILM?**

Buttons

If you want to change the separation gap use **CAL 34 before** you press **EXPOSE HOLD**. Use **EXPOSE HOLD** before you press **EXPOSE** to start the next exposure. The expose carriage will not reset to the start position but will leave a 10mm gap between separations.

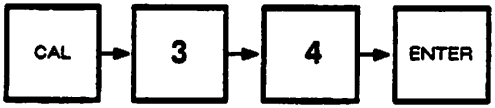
For Expose sequences where **EXPOSE HOLD** has been switched off, to send the expose carriage to datum, ready for the next scan, apply **FAST** and **CAL** simultaneously (press–release action).



The gap size can be adjusted in 1mm steps up to 255mm, using **CAL 34** and the keypad.

FORMAT 2H → CHANGE 2H SEPARATION GAP?

Buttons



Change value to 5mm

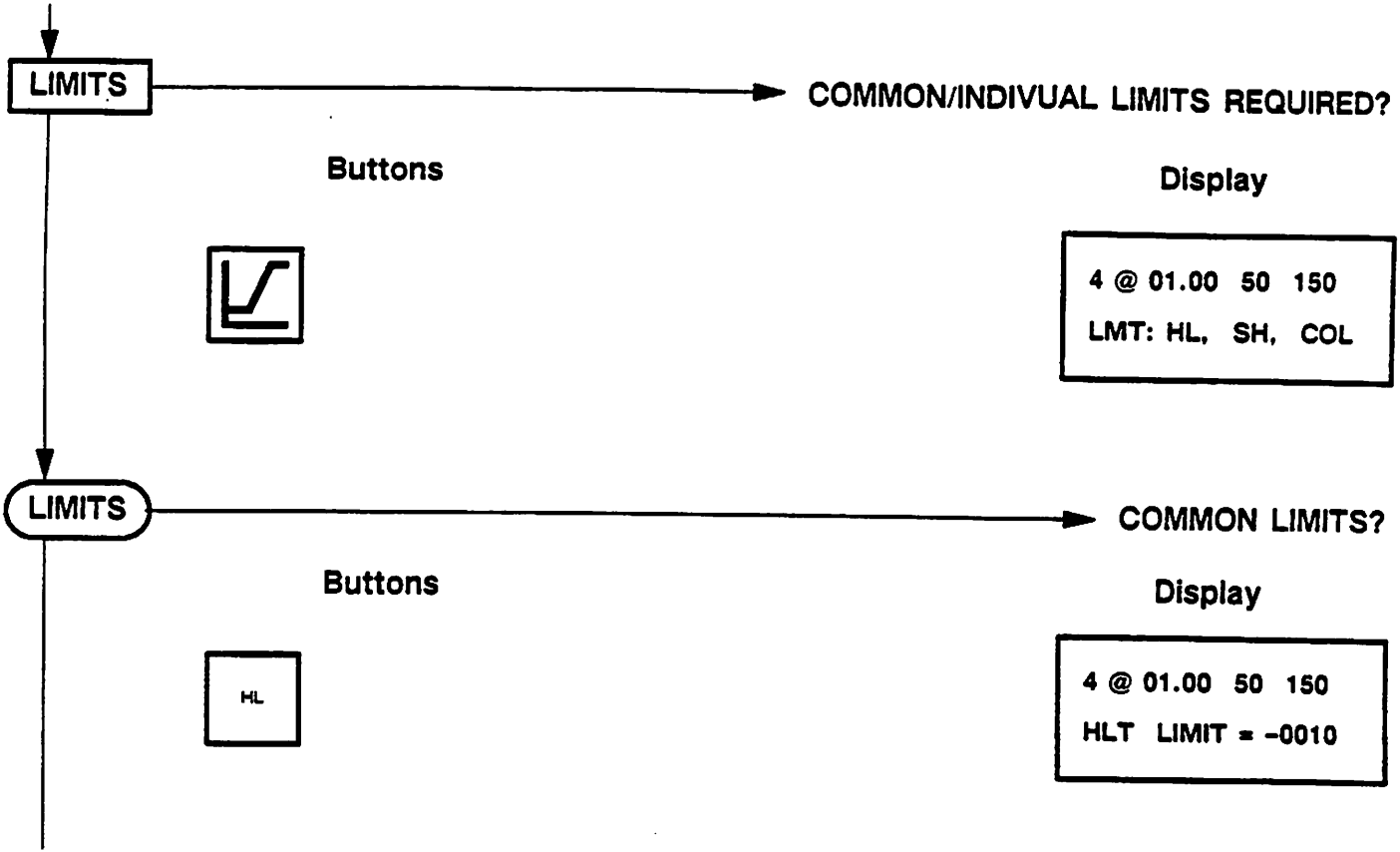
Display

```
2H  01.00  50  150
SEP GAP  010
```

```
2H  01.00  50  150
SEP GAP  005
```

```
2H  01.00  50  150
AUT  Y  SEP  SCAN
```

The gap size can be adjusted in 1mm steps up to 255mm, using **CAL34** and the **KEYPAD.**


LIMITS
COMMON/INDIVUAL LIMITS REQUIRED?
Buttons
Display
4 @ 01.00 50 150
LMT: HL, SH, COL
LIMITS
COMMON LIMITS?
Buttons
Display
HL
4 @ 01.00 50 150
HLT LIMIT = -0010

4 @ 01.00 50 150
HLT LIMIT 5

(if 5% dot required)

Press **ENTER** to exit from this mode.

If required, re-enter **LIMIT** mode to set **HL** limit in Black, then repeat for **SH** limits.

LIMITS → **INDIVIDUAL LIMITS?**

Buttons

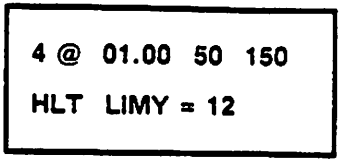
Display

4 @ 01.00 50 150
LIMIT HLT OR SH?

4 @ 01.00 50 150
HLT LIMY = -0010

Buttons

Display

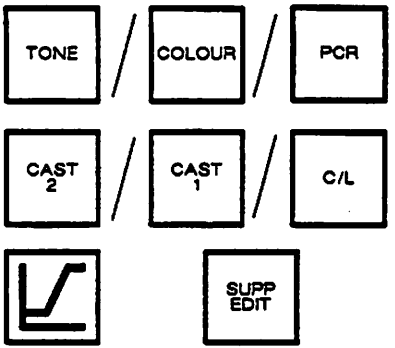


(if limit of 12 is required)

Press **ENTER/** ▽ to step to M limit. The sequence will continue through C and B limits. A similar sequence is followed if **SH** is pressed.

SUPRESS EDIT → **REQUIRE TO SUPPRESS EDIT?**

Buttons



While **SUPP EDIT** is held down, the selected edit function is temporarily suppressed. If no edit function is selected, GB will be suppressed.

SCANNER GENERATED VIGNETTES → **OUTPUT VIGNETTES?**

Buttons	Display
CAL → 5 → 6 → ENTER	VIGNETTE EXPOSE YES/NO
YES	VERTICAL (YES)? HORIZONTAL (NO)?
YES / NO	ENTER VIGNETTE COLOUR 1Y

YES is pressed for a vertical vignette or
NO for a horizontal vignette.

Buttons		Display
	Dot %, e.g. 20, of first point of vignette for the Yellow channel	ENTER VIGNETTE COLOUR 1Y20
		ENTER VIGNETTE COLOUR 1M
	Enter, successively, dot % values of first point vignette for Magenta, Cyan and Black channels. The procedure then continues:	
		ENTER VIGNETTE COLOUR 2Y
	Enter dot % values of second point for Yellow, Magenta, Cyan and Black channels in turn, as for first point.	

ENTER

ENTER VIGNETTE
HORZ. SIZE 0.0

KEYPAD

Select horizontal size final value (in mm)
e.g. 120mm

ENTER

ENTER VIGNETTE
VERT. SIZE 0.0

KEYPAD

Select verticle size final value (in mm)
e.g. 120mm

ENTER

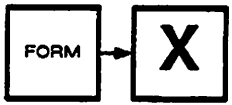
Return to standard monitor display

4@ 01.00 50 150
MAN C SEP SCAN

STEP AND REPEAT → MULTIPLE EXPOSURES REQUIRED?

Buttons

Display



ENTER HORIZONTAL REPEAT NO

Value up to 32

ENTER VERTICAL REPEAT NO

Permissible ranges are:- 32 for 1@
16 for 2V
10 for 3@
8 for 4@

Note: 2H is not a valid format for the Step and Repeat function.

ENTER HORIZONAL
SEP GAP

Value up to 25.0mm (10ths of mm)
Minimum value 0.2mm

ENTER VERTICAL
SEP GAP

Value up to 25.0mm (10ths of mm)
Minimum value 0.2mm

Routine exits

2V 01.00 50 150
MAN C SEP SCAN

Step and Repeat scanning will continue, until cancelled as follows:

Buttons

Return to normal scanning

The following key may be used at any time during the Step and Repeat procedure to return to normal scanning.

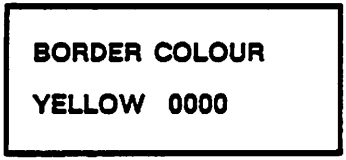
IMAGE OFFSET WITH BORDER → **OFFSET IMAGE WITH BORDER? (646 only)**

Buttons	Display
CAL → 6 → 0 → ENTER	SCAN TINT MODE Y/N
YES	VERTICAL OFFSET 000.0
KEYPAD — Value (in mm), e.g. 25	VERTICAL OFFSET 25
ENTER	HORIZ'TAL OFFSET 000.0

Buttons		Display
KEYPAD	Similarly to vertical offset	
ENTER		FINAL VERTI SIZE 000.0
KEYPAD	Value (in mm)	FINAL VERTI SIZE 120
ENTER		FINAL HORI SIZE 000.0
KEYPAD	Value (in mm)	FINAL HORI SIZE 120

Value in mm, e.g. 10, down to 0.2mm

Tint value (0 to 100)



Now define values for border colours Magenta, Cyan and Black, in turn, similarly to Yellow. After pressing **ENTER** for Black, the display appears, as follows:

Buttons		Display
ENTER		BACKGRND COLOUR YELLOW 0000
KEYPAD	Select value between 0 and 100, as required	
ENTER		BACKGRND COLOUR MAGENTA 0000

Now define values of background colours Magenta, Cyan and Black, in turn, similarly to Yellow. After pressing **ENTER** once for Black, the last background colour, you can still backstep through the routine using △. The key ▽ is used at any time during the routine to step forward.

The monitor mode is now re-established by pressing:

ENTER (second successive operation)

BACKGRND COLOUR
YELLOW 0000

NEG/POS → NEG OR POS OUTPUT REQUIRED?

Buttons

NEG

NEG causes the scanner to output negatives.

Button Illuminated = Negative Result

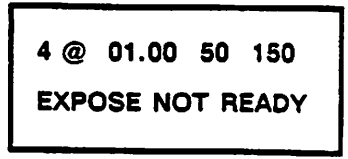
Button Not Illuminated = Positive Result

Note: Pressing **NEG** at this stage converts the positive set-up of the job to negative set-up.

EXPOSE → **READY TO EXPOSE**

Buttons

Display



Select the required colour channel. Close the analyse unit lid.

Note: As a safety precaution, **do not** press **EXPOSE** on the analyse unit until you have loaded the film.

Now move to the expose unit

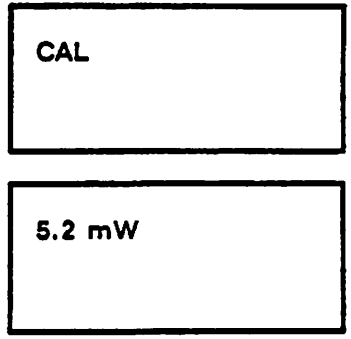
TURRET → **SELECT TURRET**

The expose unit lens turret has three settings (A, B and C). Set the turret for the scan rate in use. A set of rulings is available for each scan rate/lens turret combination. Use the output functions cycle to select the screen ruling required.

LASER POWER → CHECK LASER POWER

Buttons

Display



The display alternates between **CAL** and the current laser power.
If increase or decrease of power is required;

Press:- or

For a fast change of power, press **FAST** at the same time.

Press **CAL** again to exit from this mode.

LOAD OUTPUT FILM → **LOAD OUTPUT FILM**

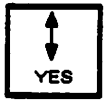
Place the film onto the expose cylinder register pins. Switch on the vacuum. Hold down the **LOAD FILM** button, and the film will be automatically loaded. Close the expose unit lid.

Note: Once the **LOAD FILM** button is released, the pressure roller withdraws and the cylinder stops rotating.

EXPOSE SEPARATION → **INITIATE EXPOSURE FROM ANALYSE UNIT ONLY**

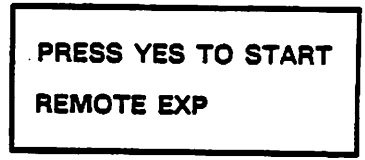
Buttons

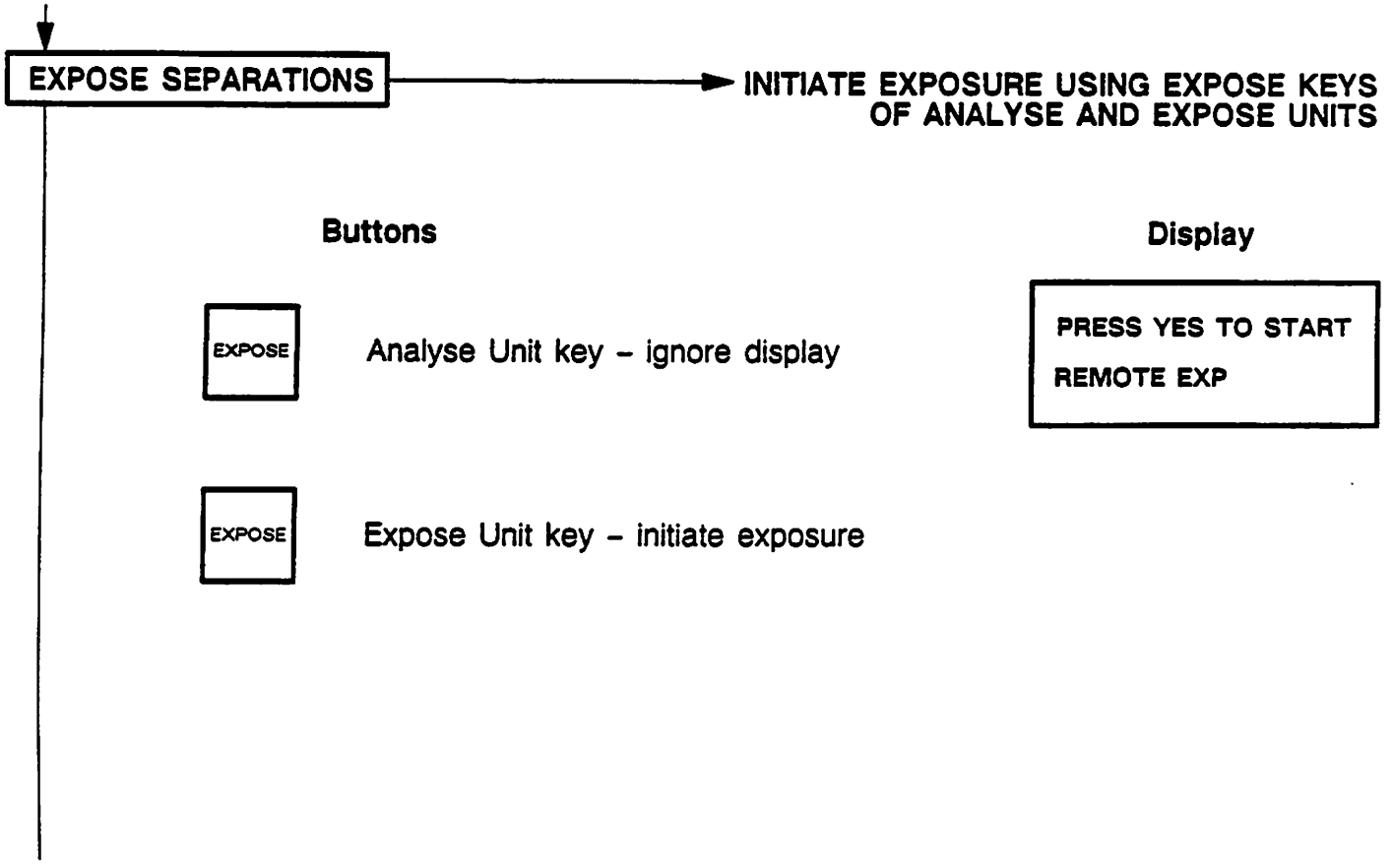
Analyse Unit key



Initiate exposure

Display




EXPOSE SEPARATIONS
INITIATE EXPOSURE USING EXPOSE KEYS OF ANALYSE AND EXPOSE UNITS
Buttons
Display
EXPOSE
Analyse Unit key – ignore display
PRESS YES TO START
REMOTE EXP
EXPOSE
Expose Unit key – initiate exposure

EXPOSE → WHEN NOT YET READY TO EXPOSE

Buttons		Display
EXPOSE	Analyse Unit key	PRESS YES TO START REMOTE EXP
↔ NO		EXPOSE 1 NOT READY
EXPOSE	Expose Unit key. Use to initiate exposure.	

Note: If the lid is up on either the Expose Unit or the Analyse Unit, the appropriate cylinder will not rotate. The analyse display will show **'A SPEED'** or **'E SPEED'**, depending on which cylinder is not up to speed.

UNLOAD FILM → **UNLOAD WHEN APPLICABLE**

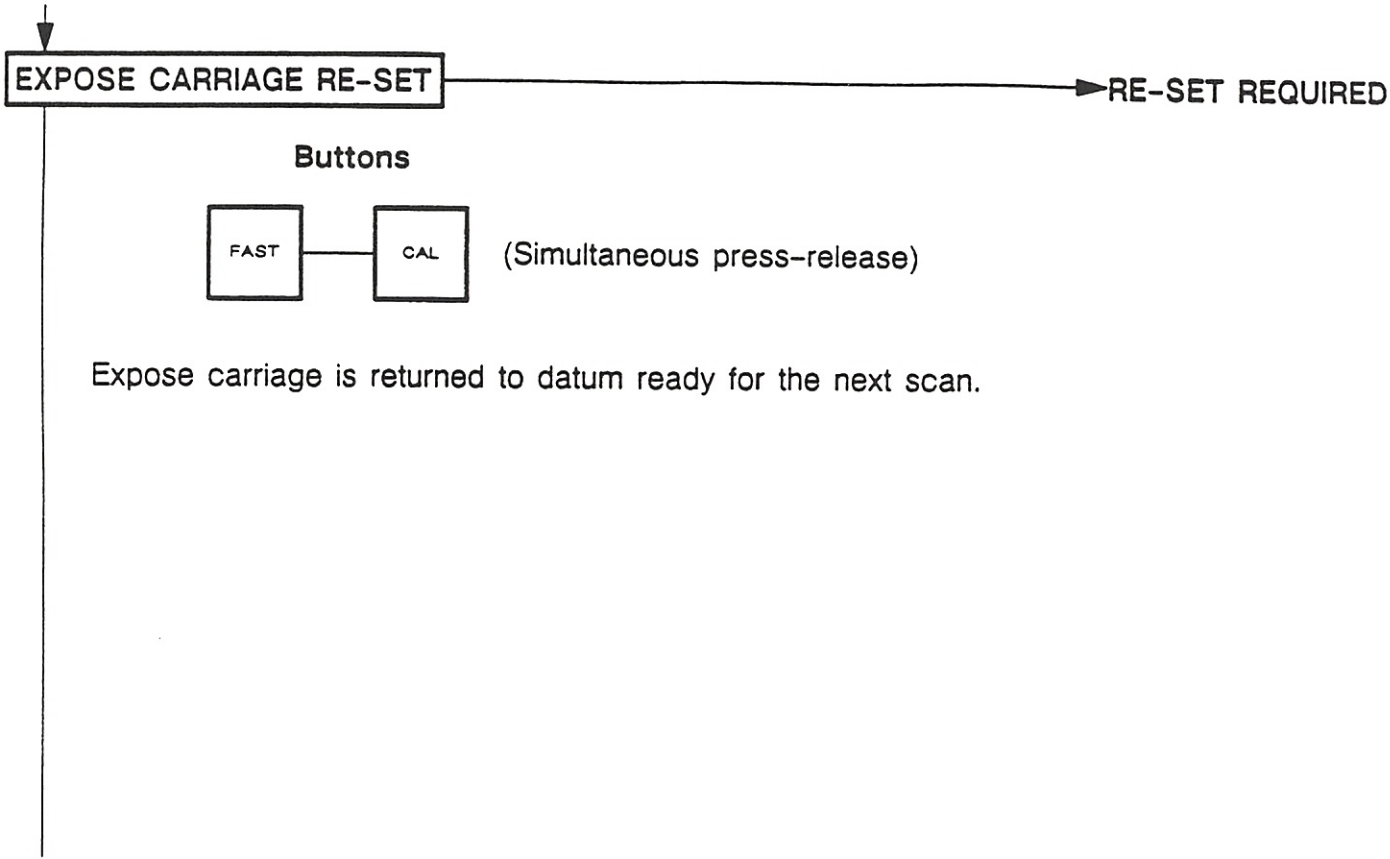
Buttons

When cylinder has stopped, rotate by hand to bring trailing edge of film to accessible position.

Bring film loading bar to 'up' position and set in position.

VACUUM switch – switch to 'off'.

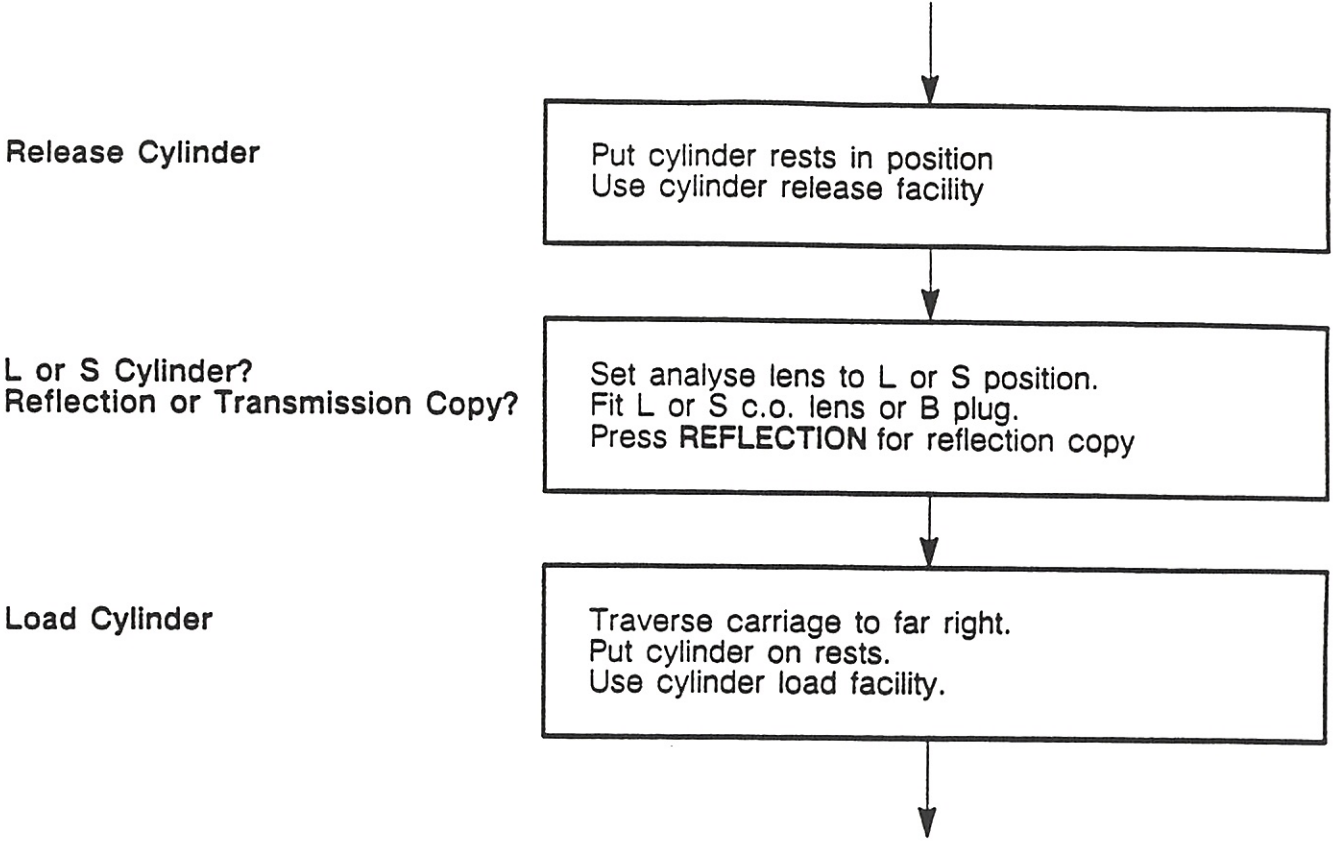
Lift trailing edge of film off cylinder. Draw film gently over film loading bar and remove.

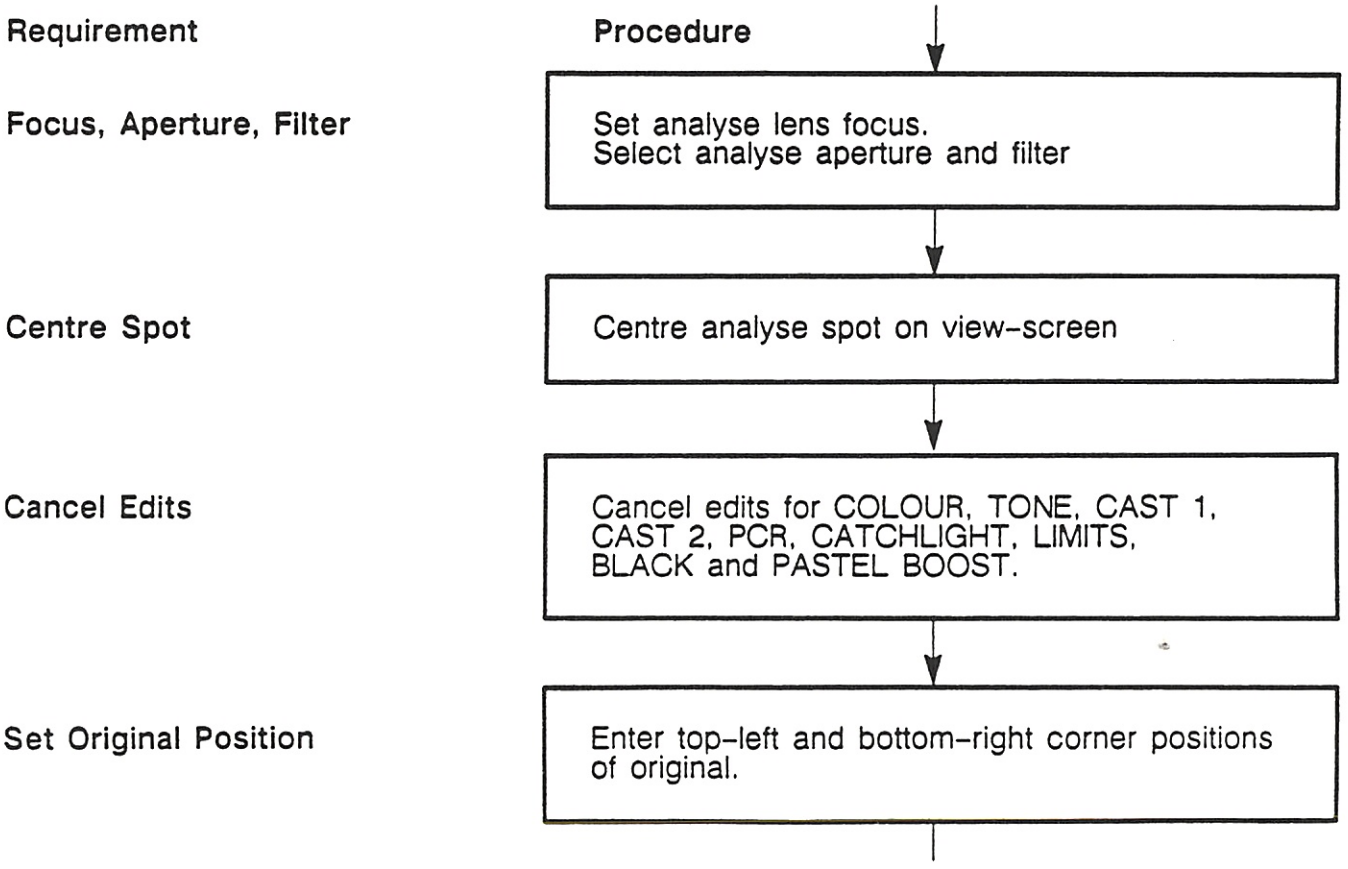

EXPOSE CARRIAGE RE-SET
RE-SET REQUIRED
Buttons
FAST
CAL
(Simultaneous press-release)
Expose carriage is returned to datum ready for the next scan.

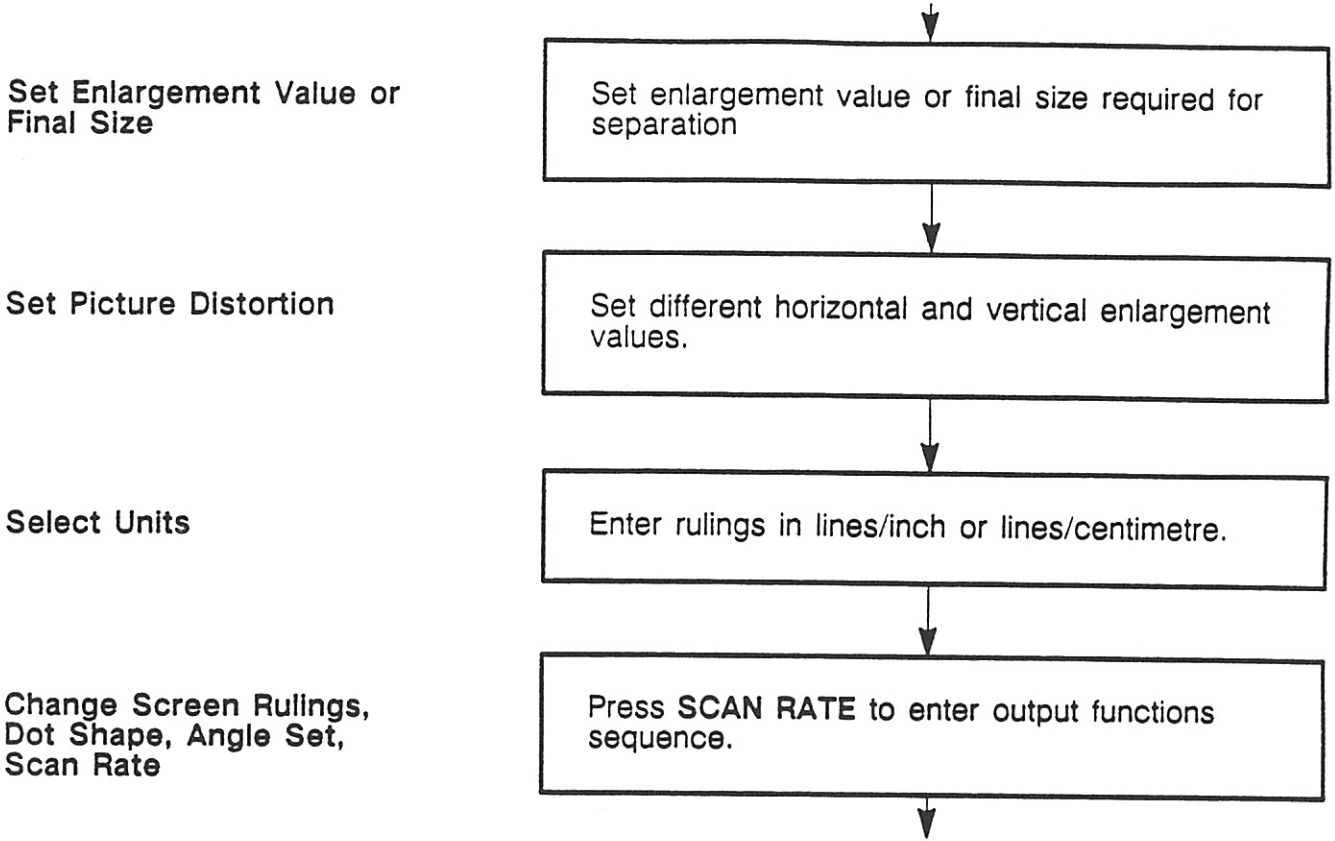
CHAPTER 4
RECOMMENDED OPERATING SEQUENCE

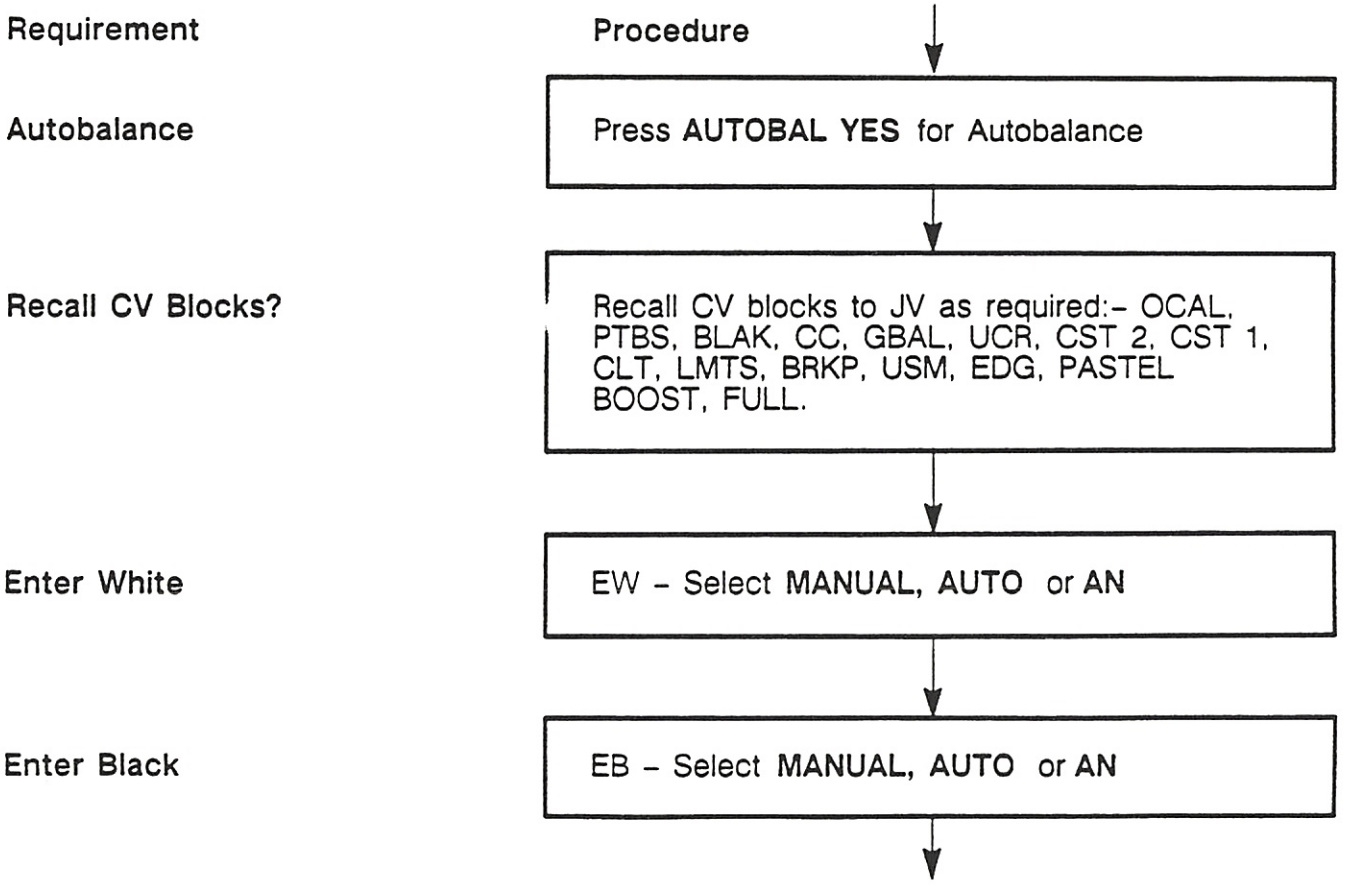
4 RECOMMENDED OPERATING SEQUENCE

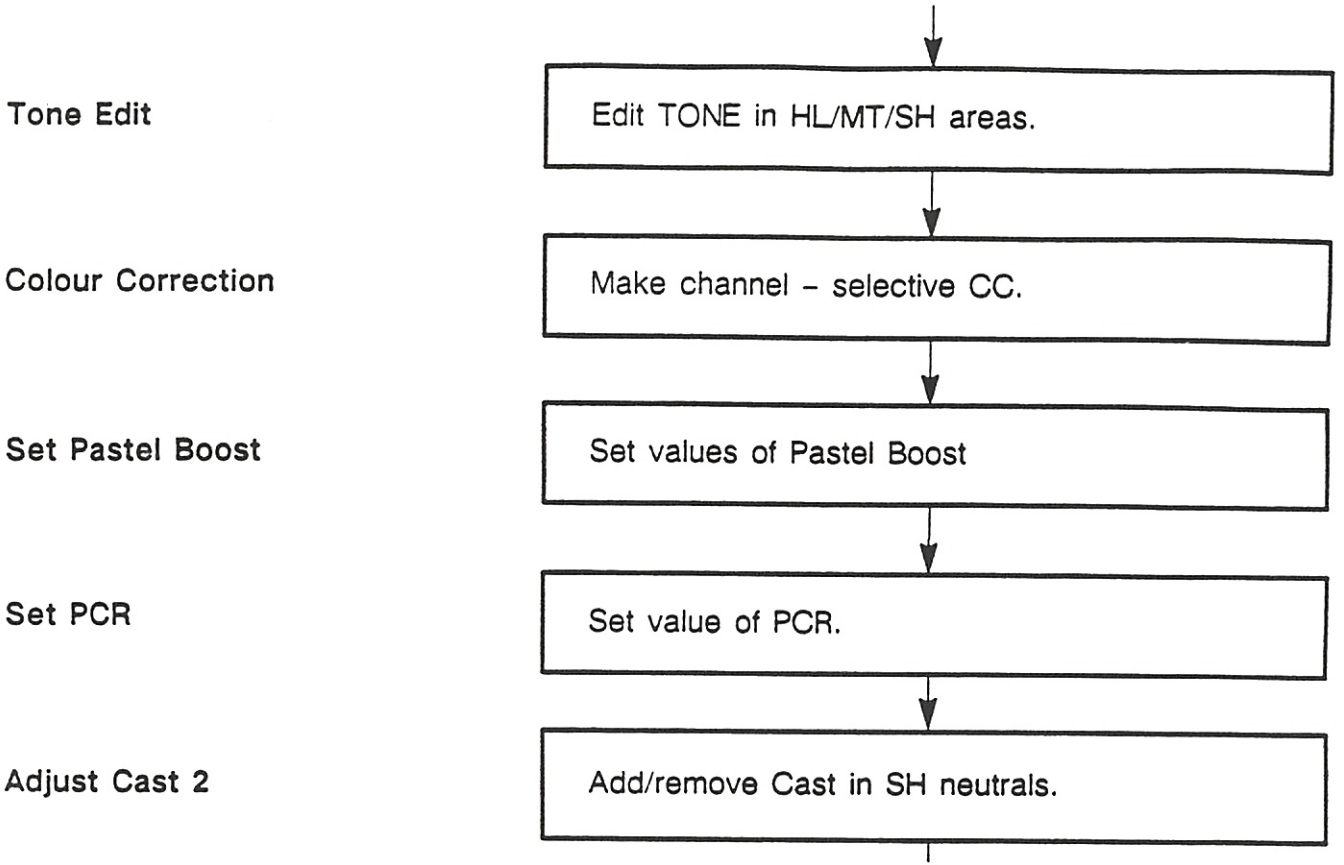
Requirement	Procedure
Laser On	Press **CAL 47 YES** to switch laser to run mode.
Calibration	Load output film Close exp. lid–press **EXPOSE** Close anal. lid–press **CAL EXPOSE** Process film and measure dot%. Do 50% step day–to–day update.
Laser Output	Press **CAL 46** for laser power Use keypad to set new power or Use **ENTER** to keep power unchanged

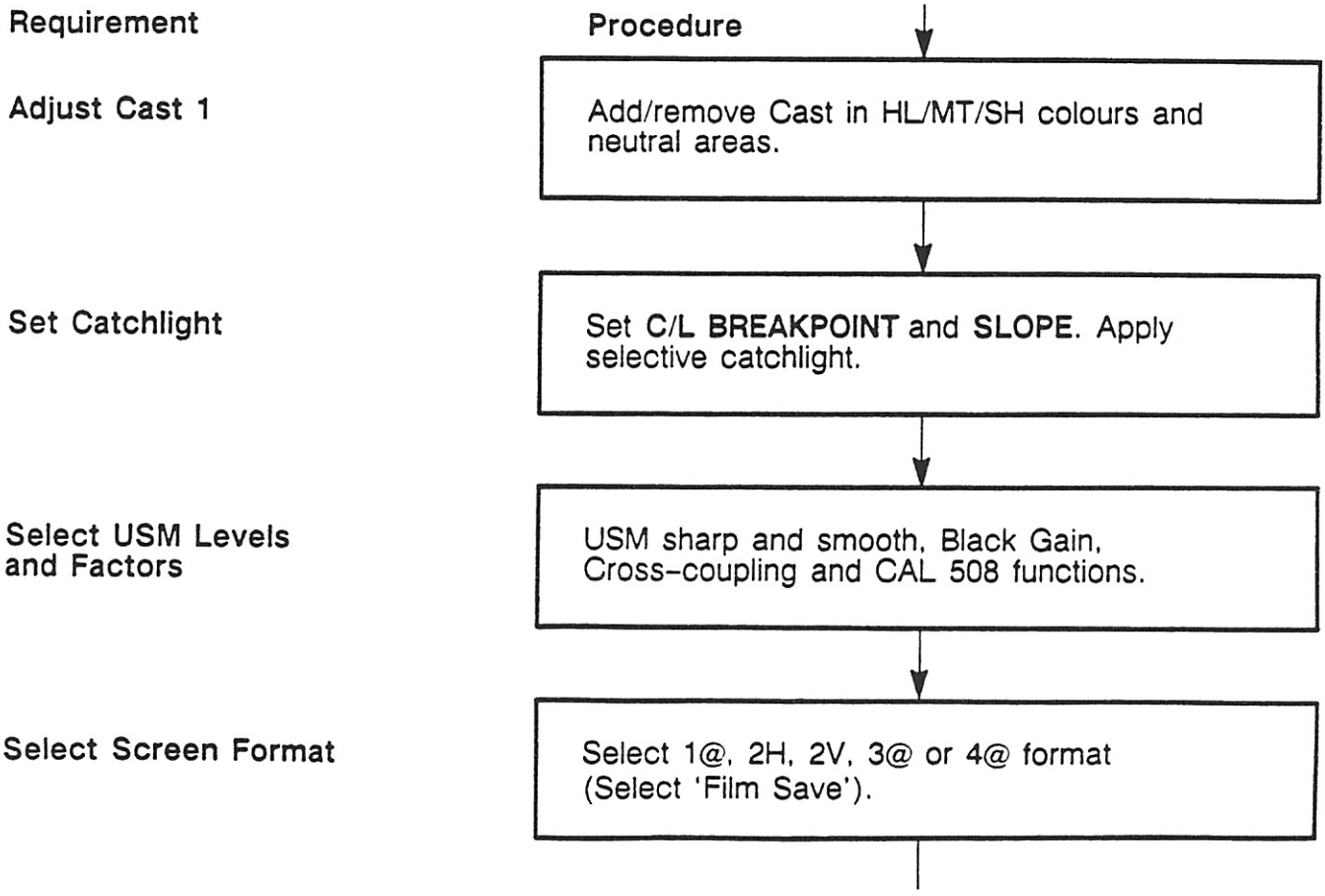

Release Cylinder
Put cylinder rests in position
Use cylinder release facility
L or S Cylinder?
Reflection or Transmission Copy?
Set analyse lens to L or S position.
Fit L or S c.o. lens or B plug.
Press REFLECTION for reflection copy
Load Cylinder
Traverse carriage to far right.
Put cylinder on rests.
Use cylinder load facility.

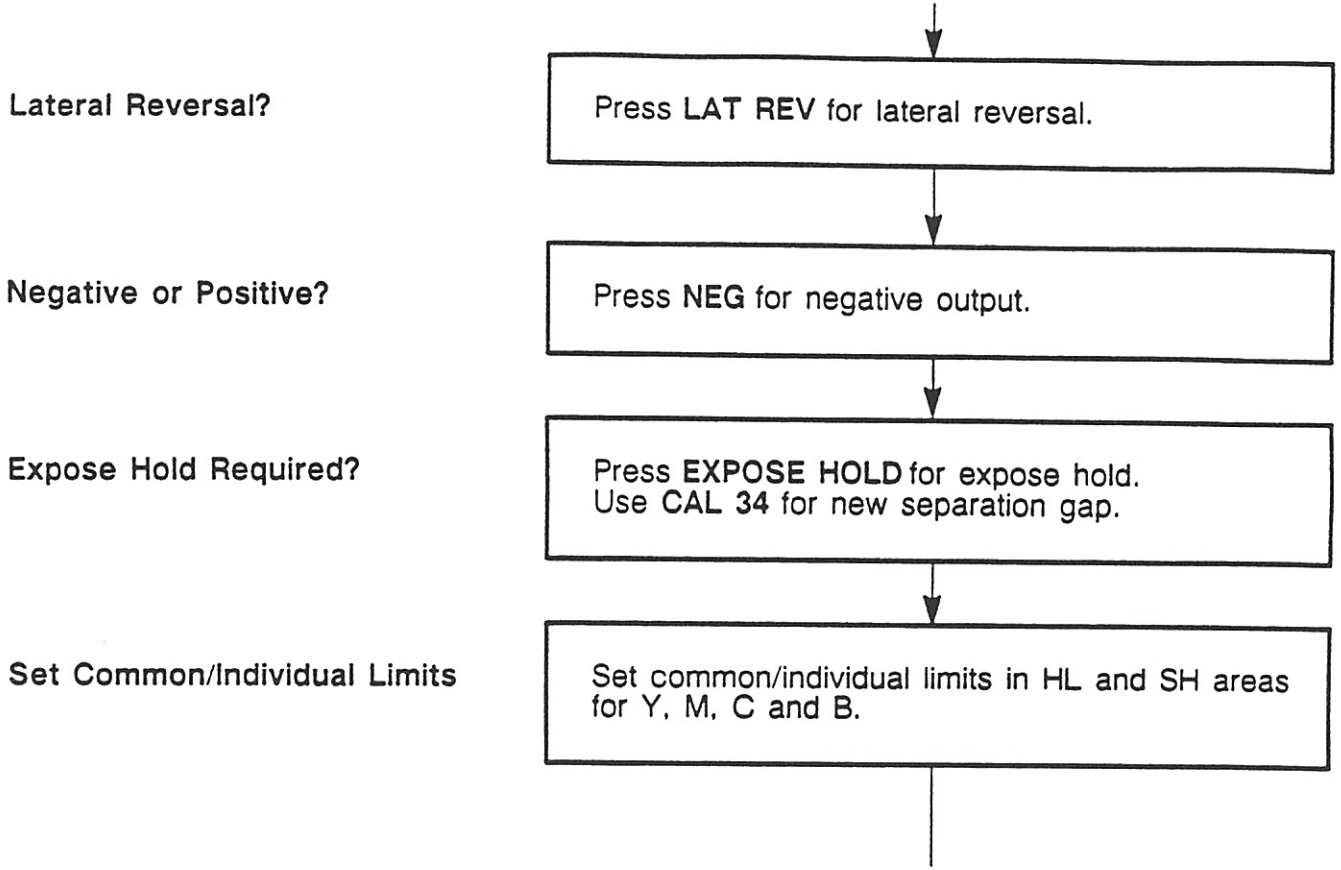

Requirement
Procedure
Focus, Aperture, Filter
Set analyse lens focus.
Select analyse aperture and filter
Centre Spot
Centre analyse spot on view-screen
Cancel Edits
Cancel edits for COLOUR, TONE, CAST 1, CAST 2, PCR, CATCHLIGHT, LIMITS, BLACK and PASTEL BOOST.
Set Original Position
Enter top-left and bottom-right corner positions of original.


Set Enlargement Value or Final Size
Set enlargement value or final size required for separation
Set Picture Distortion
Set different horizontal and vertical enlargement values.
Select Units
Enter rulings in lines/inch or lines/centimetre.
Change Screen Rulings, Dot Shape, Angle Set, Scan Rate
Press SCAN RATE to enter output functions sequence.

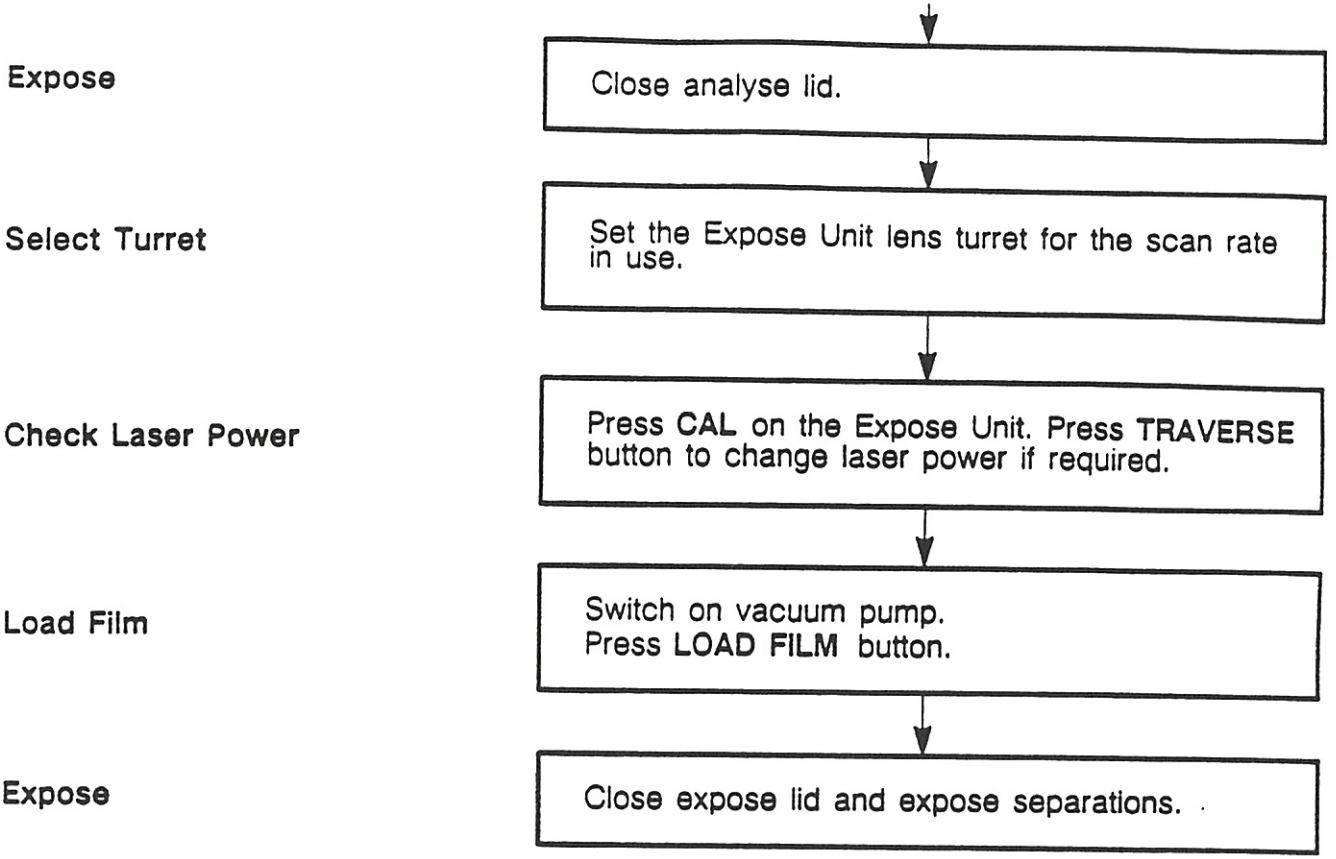

Requirement
Procedure
Autobalance
Press AUTOBAL YES for Autobalance
Recall CV Blocks?
Recall CV blocks to JV as required:- OCAL, PTBS, BLAK, CC, GBAL, UCR, CST 2, CST 1, CLT, LMTS, BRKP, USM, EDG, PASTEL BOOST, FULL.
Enter White
EW - Select MANUAL, AUTO or AN
Enter Black
EB - Select MANUAL, AUTO or AN


Tone Edit
Edit TONE in HL/MT/SH areas.
Colour Correction
Make channel - selective CC.
Set Pastel Boost
Set values of Pastel Boost
Set PCR
Set value of PCR.
Adjust Cast 2
Add/remove Cast in SH neutrals.


Requirement
Procedure
Adjust Cast 1
Add/remove Cast in HL/MT/SH colours and neutral areas.
Set Catchlight
Set C/L BREAKPOINT and SLOPE. Apply selective catchlight.
Select USM Levels and Factors
USM sharp and smooth, Black Gain, Cross-coupling and CAL 508 functions.
Select Screen Format
Select 1@, 2H, 2V, 3@ or 4@ format (Select 'Film Save').


Lateral Reversal?
Press LAT REV for lateral reversal.
Negative or Positive?
Press NEG for negative output.
Expose Hold Required?
Press EXPOSE HOLD for expose hold.
Use CAL 34 for new separation gap.
Set Common/Individual Limits
Set common/individual limits in HL and SH areas for Y, M, C and B.

Requirement	Procedure
Scanner Generated Vignettes	Output vignettes.
Step and Repeat	Perform multiple exposures of image in required format.
Image Offset with Border	Offset image with border.
Negative or Positive	Press NEG for negative output.

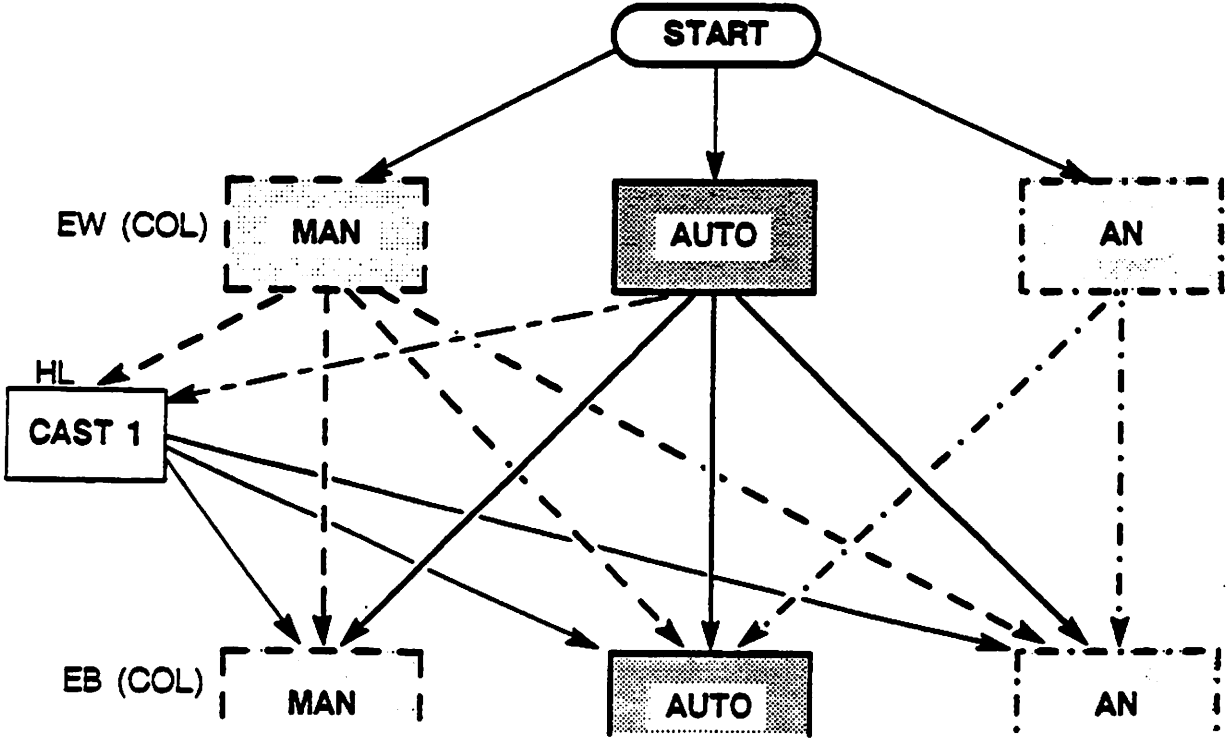

Expose
Close analyse lid.
Select Turret
Set the Expose Unit lens turret for the scan rate in use.
Check Laser Power
Press CAL on the Expose Unit. Press TRAVERSE button to change laser power if required.
Load Film
Switch on vacuum pump.
Press LOAD FILM button.
Expose
Close expose lid and expose separations.

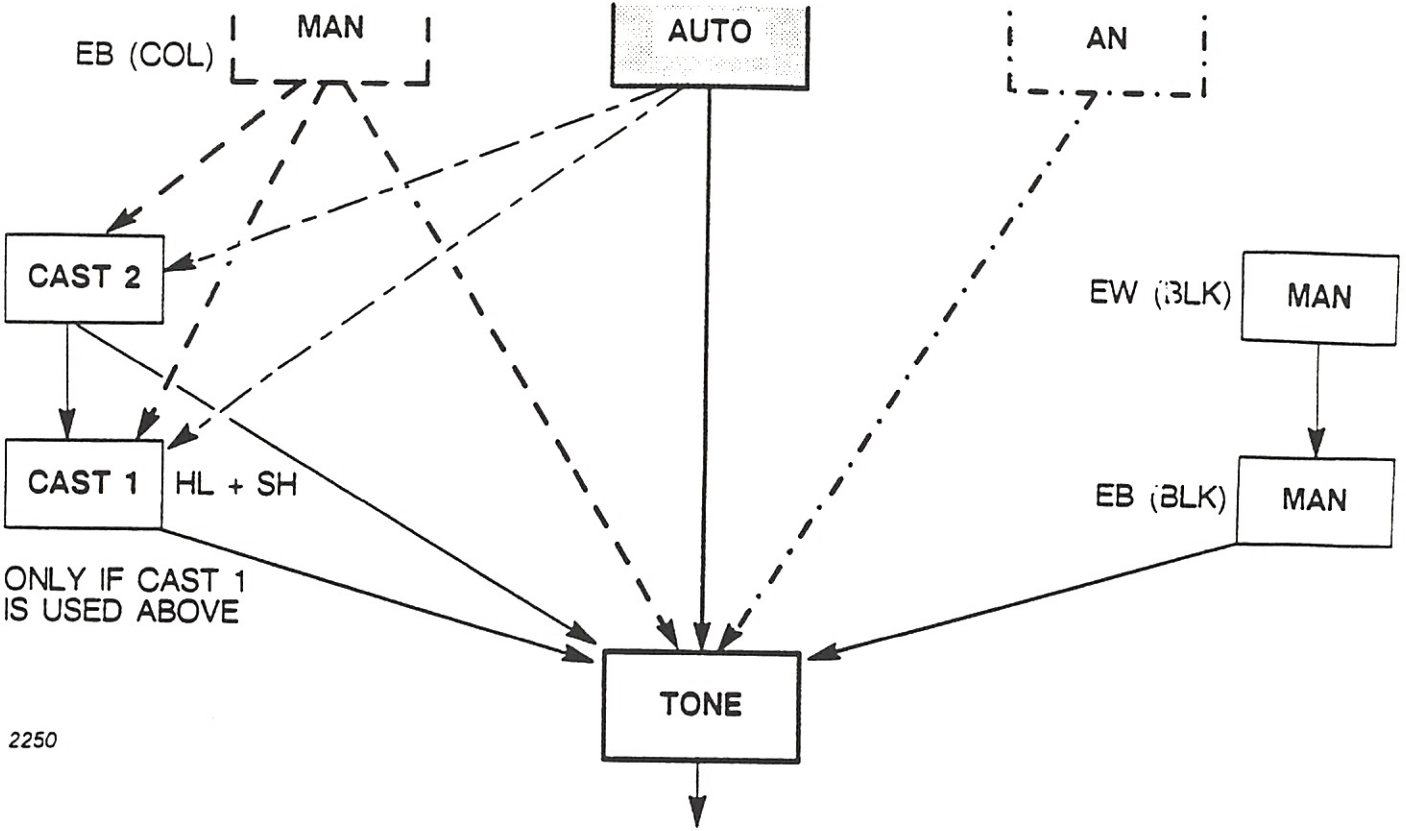
Requirement	Procedure
Unload Film	Press **STOP.** Bring film loading bar to 'up' and set in position. Switch VACUUM to 'off'. Remove film.
Expose Carriage Re-set	Press **FAST** and **CAL** together.

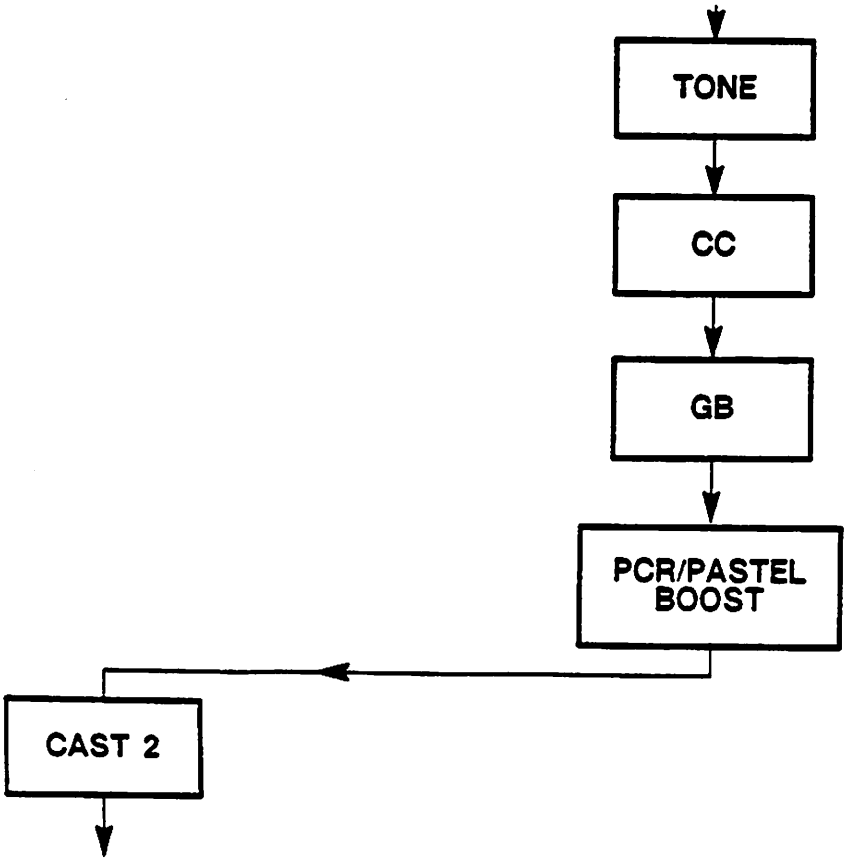
CHAPTER 5
EDITORIAL SEQUENCE CHART

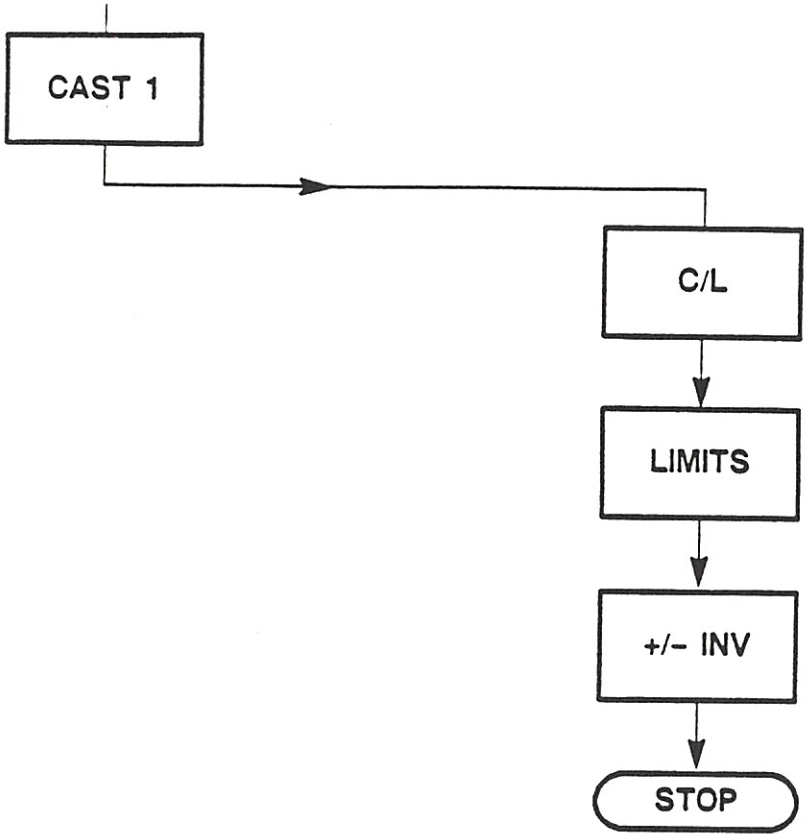
5 EDITORIAL SEQUENCE CHART

Note: In the sequence, the correct point for CAST 1 and CAST 2 is after PCR, but certain operations require a CAST setting at the beginning of the set-up seqence. In that case, the CAST must be re-adjusted at the appropriate point (e.g. after PCR).




EB (COL)
MAN
AUTO
AN
CAST 2
EW (BLK)
MAN
CAST 1
HL + SH
EB (BLK)
MAN
ONLY IF CAST 1
IS USED ABOVE
TONE
2250


TONE
CC
GB
PCR/PASTEL BOOST
CAST 2


CAST 1
C/L
LIMITS
+/- INV
STOP

APPENDIX A

CONTENTS

Section		Page
A.1	**USM Functions and Settings**	A-1

A.1 USM Functions and Settings

	Front Panel			CAL 508								
	Sharp	Smooth	Black Grain	Threshold	Fringe Clip	D1	D2	Yellow Gain	Magenta Gain	Cyan Gain	Neg Gain	White Attenuator
Average Trans Settings	4/5	3/4	4	5/8	127	150/200	225/255	3/6	1/2	1	1/2	3
Big Enlargements	3/5	2/3	4	5/8	90/127	150/180	200/255	3/6	1/2	1	1	3/5
PCR	3/5	2/3	8/12	5/8	90/127	150/180	225/255	4/6	1/2	1	1	3/5
Fine Detail Sharpness	5/7	2/3	4/8	5/8	70/110	150/180	225/255	5/7	1/2	1	1/3	7/9
Fleshtones	3/5	3/4	4	5/8	90/127	150/180	200/255	4/6	1/2	1	1	3/4
Grainy Originals	2/4	3/6	4	10/15	110/127	150/180	200/255	5/7	2/3	1	1	3
Colour Prints	3/5	2/3	4/8	5/8	80/127	150/180	180/255	3/6	1/2	1	1/2	3
Water Colours	2/4	3/6	1/4	5/10	100/127	100/150	150/200	3/6	1/2	1	1	3